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EFFECTIVE AGAINST MOST STRAINS OF STAPHYLOCOCCI

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Surveys of *in vitro* performance of various antibiotics over the past several years indicate a definite decrease in activity against the staphylococcus.[1,2] CHLOROMYCETIN, however, continues to demonstrate a high degree of potency against this stubborn pathogen.[1-4] Even the strains responsible for hospital-acquired staphylococcal infections, which are resistant to most other antibiotics, may be sensitive to CHLOROMYCETIN.[5-9] For this reason, it has been recommended for immediate use in suspected staphylococcal infections in infants, their mothers, and in surgical patients.[10]

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REFERENCES: (1) Holloway, W. J., & Scott, E. G.: *Delaware M. J.* **30**:175, 1958. (2) Roy, T. E., *et al.*: *Canad. M.A.J.* **77**:844, 1957. (3) Markham, N. P., & Shott, H. C. W.: *New Zealand M. J.* **57**:55, 1958. (4) Royer, A., in Welch, H., & Marti-Ibañez, F.: Antibiotics Annual 1957-1958, New York, Medical Encyclopedia, Inc., 1958, p. 783. (5) Blair, J. E., & Carr, M.: *J.A.M.A.* **166**:1192, 1958. (6) Caswell, H. T., *et al.*: *Surg., Gynec. & Obst.* **106**:1, 1958. (7) Fekety, F. R., *et al.*: *Am. J. Pub. Health* **48**:298, 1958. (8) Godfrey, M. E., & Smith, I. M.: *J.A.M.A.* **166**:1197, 1958. (9) Kessler, A. D., & Scott, R. B.: *J. Dis. Child.* **96**:294, 1958. (10) Shaffer, T. E.: *J. Michigan M. Soc.* **57**:851, 1958.

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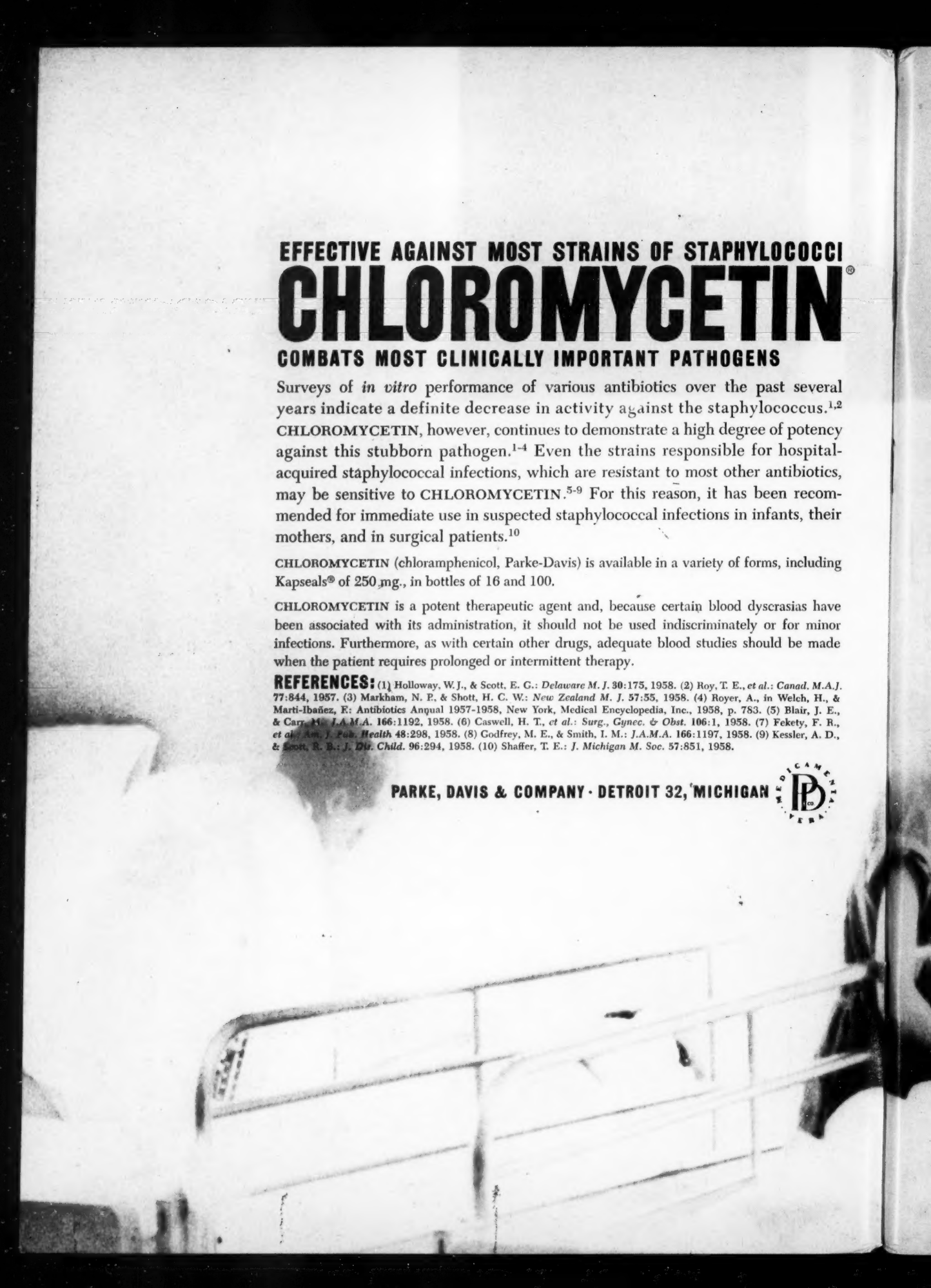

IN VITRO SENSITIVITY OF PATHOGENIC STAPHYLOCOCCI TO CHLOROMYCETIN AND TO ANOTHER WIDELY USED BROAD-SPECTRUM ANTIBIOTIC FOR 1958, 1957, and 1955*

*Adapted from Holloway and Scott.[1] In this study CHLOROMYCETIN and Antibiotic A were used in identical strengths of 5 mcg.

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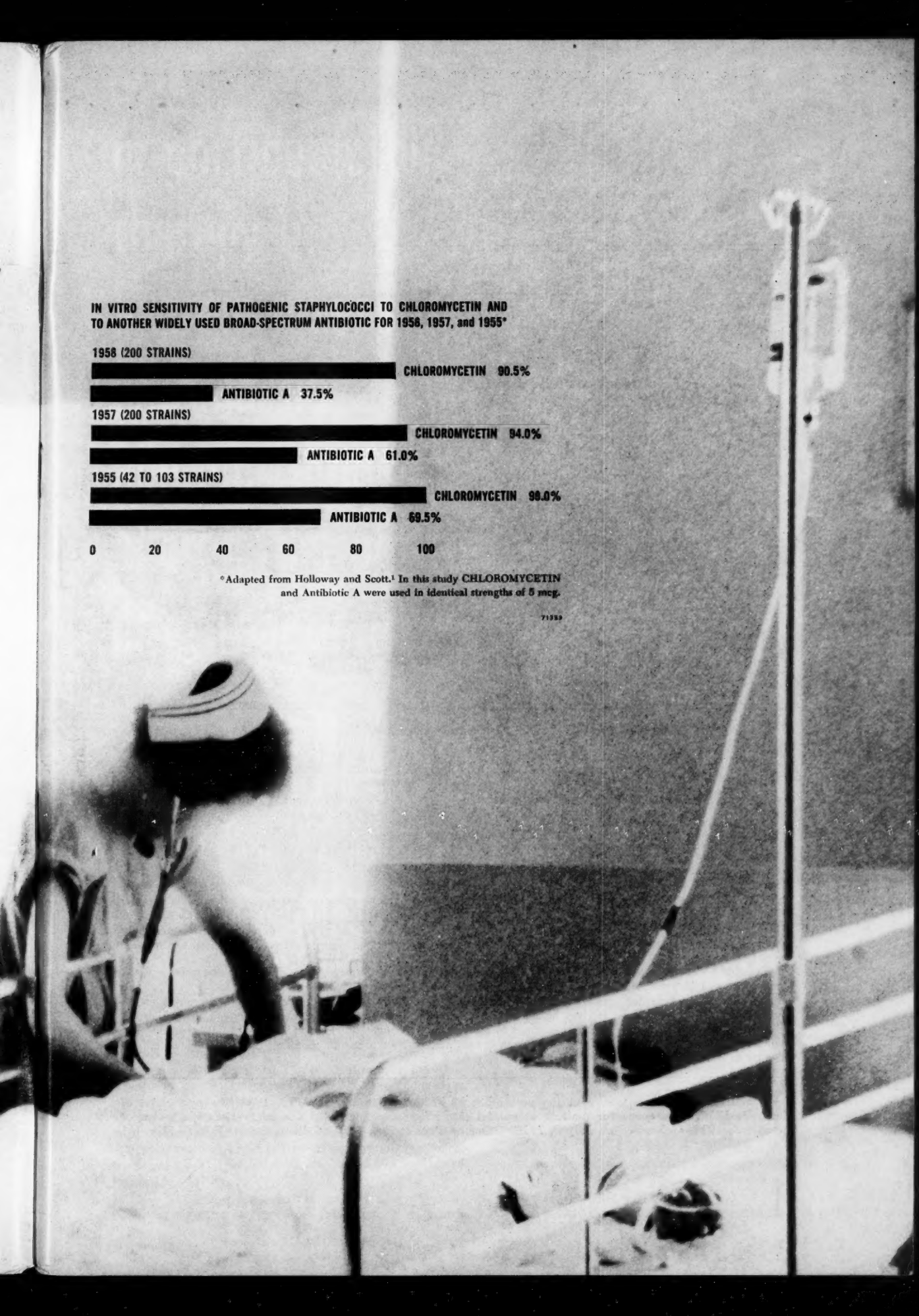

THE JOURNAL
of the
KANSAS MEDICAL SOCIETY

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Ownership: The Journal is a non-profit publication owned and published monthly by the Kansas Medical Society.

Subscription: A year's subscription to the Journal is included in membership in the Kansas Medical Society, with $2.00 of each member's dues apportioned to the Journal. Rates to others, except in foreign countries, $4.00 per year or 60c per copy.

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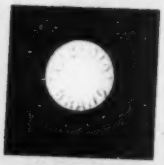

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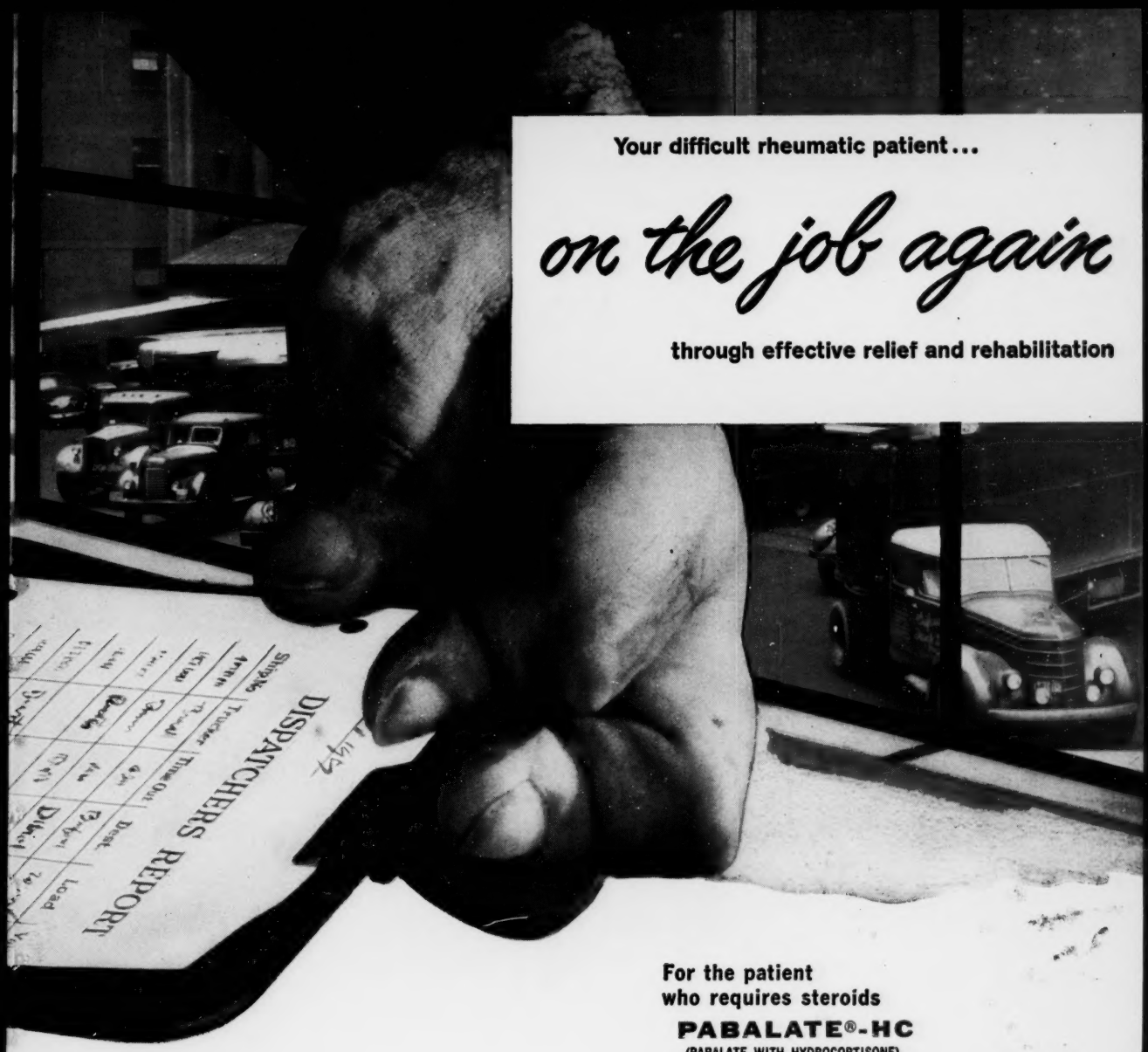

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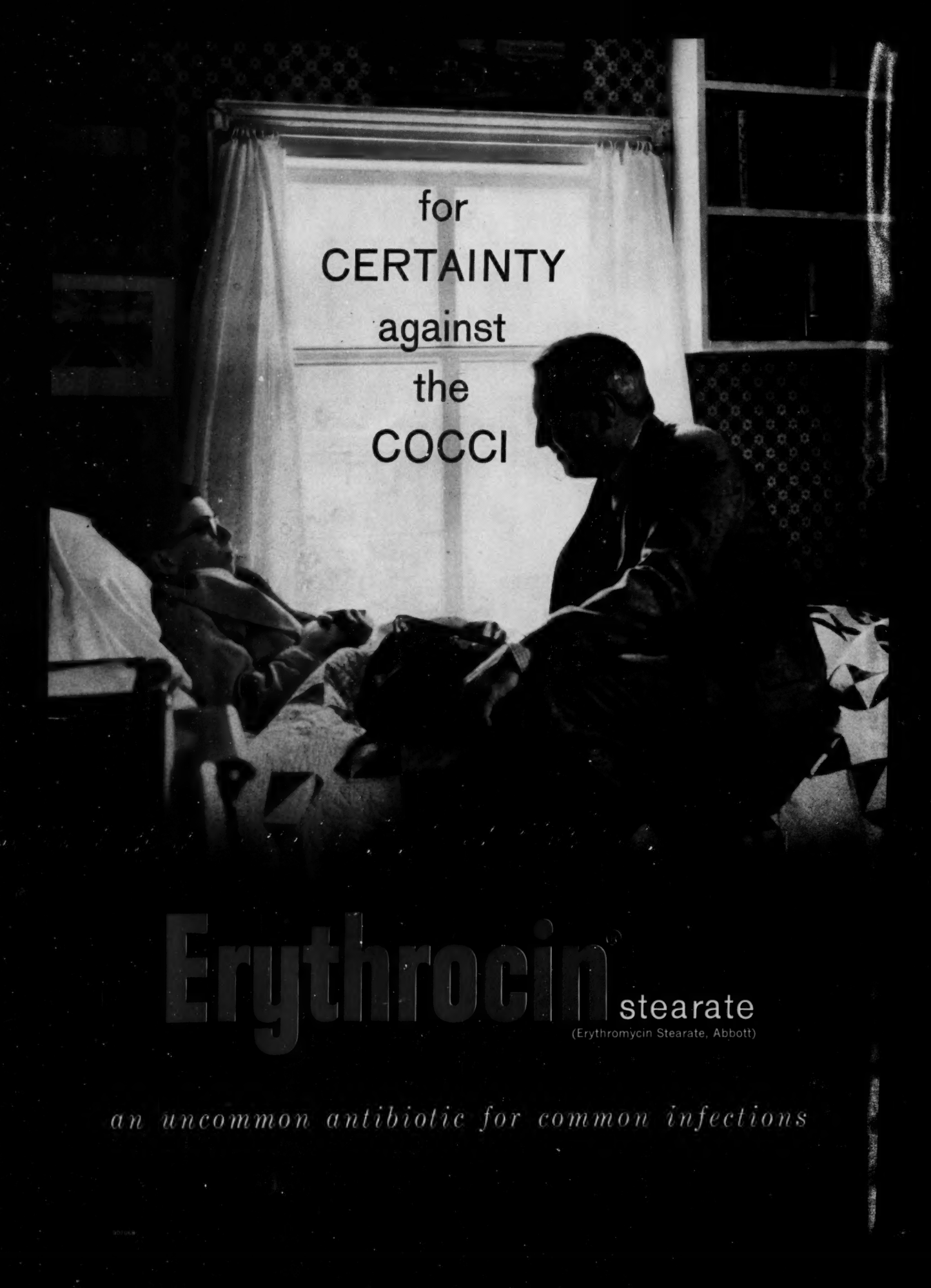
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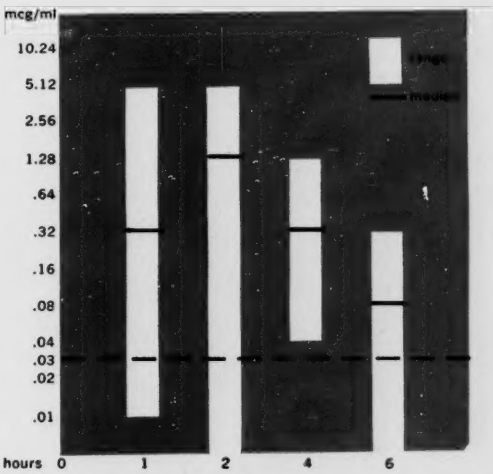

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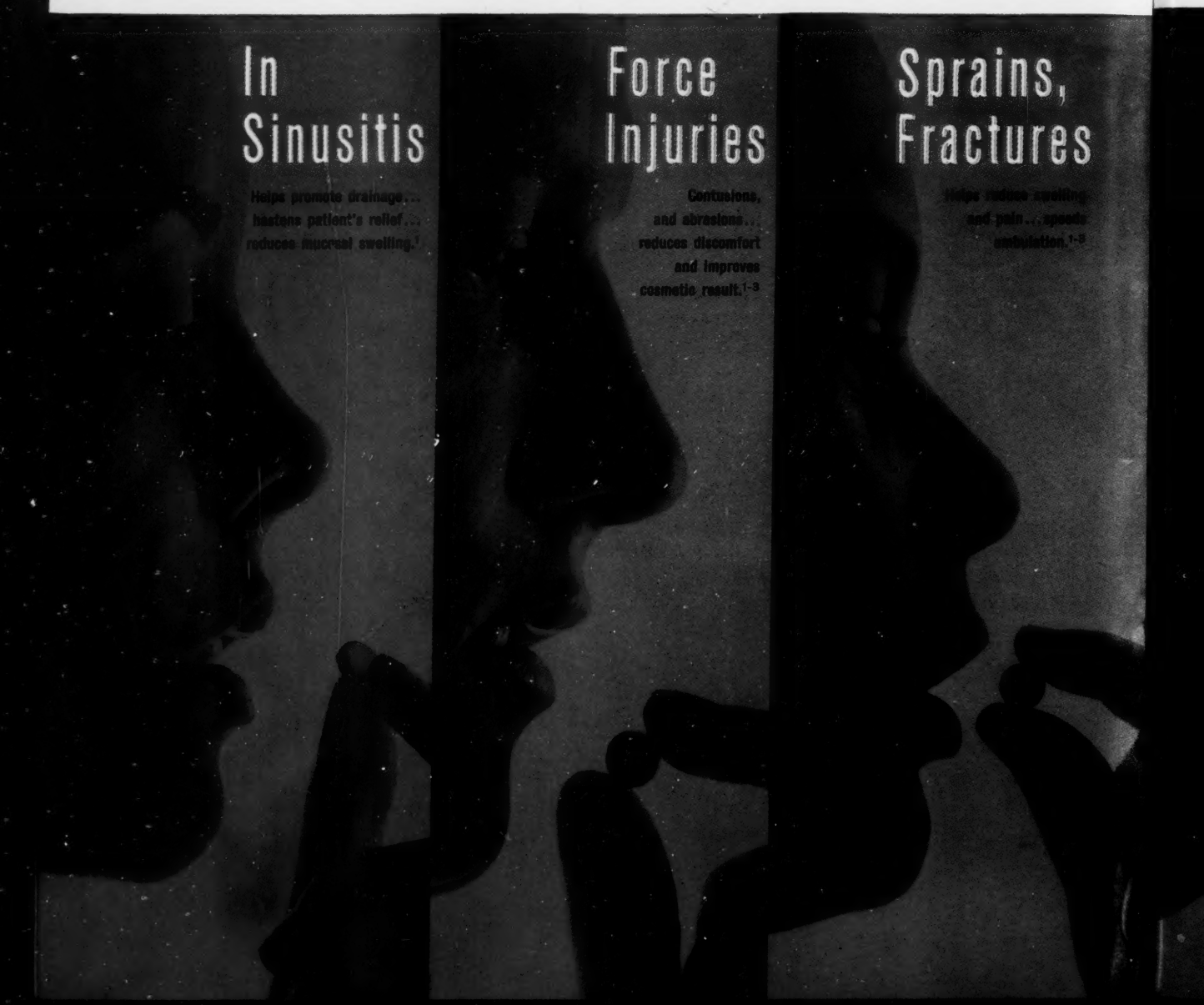
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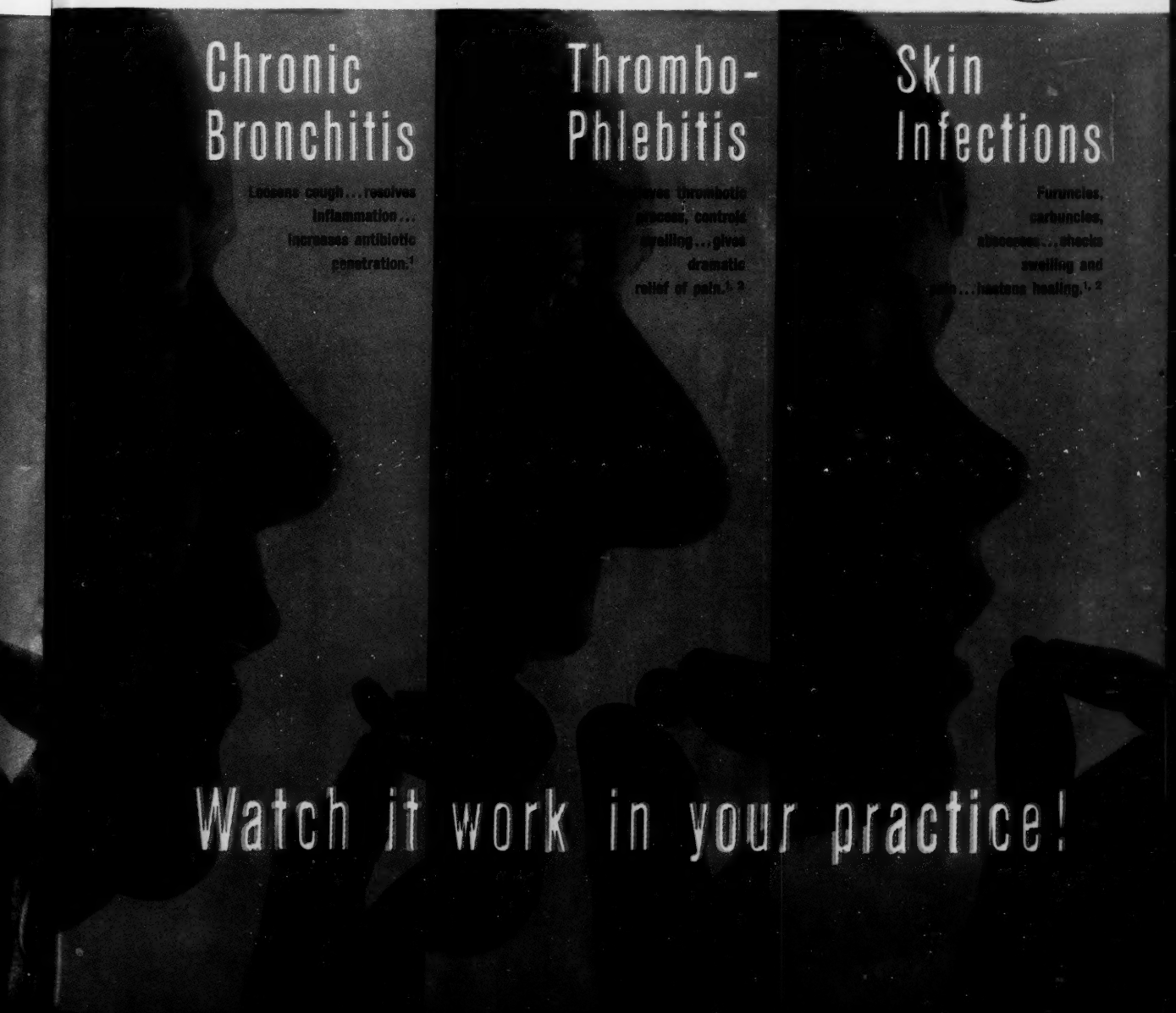
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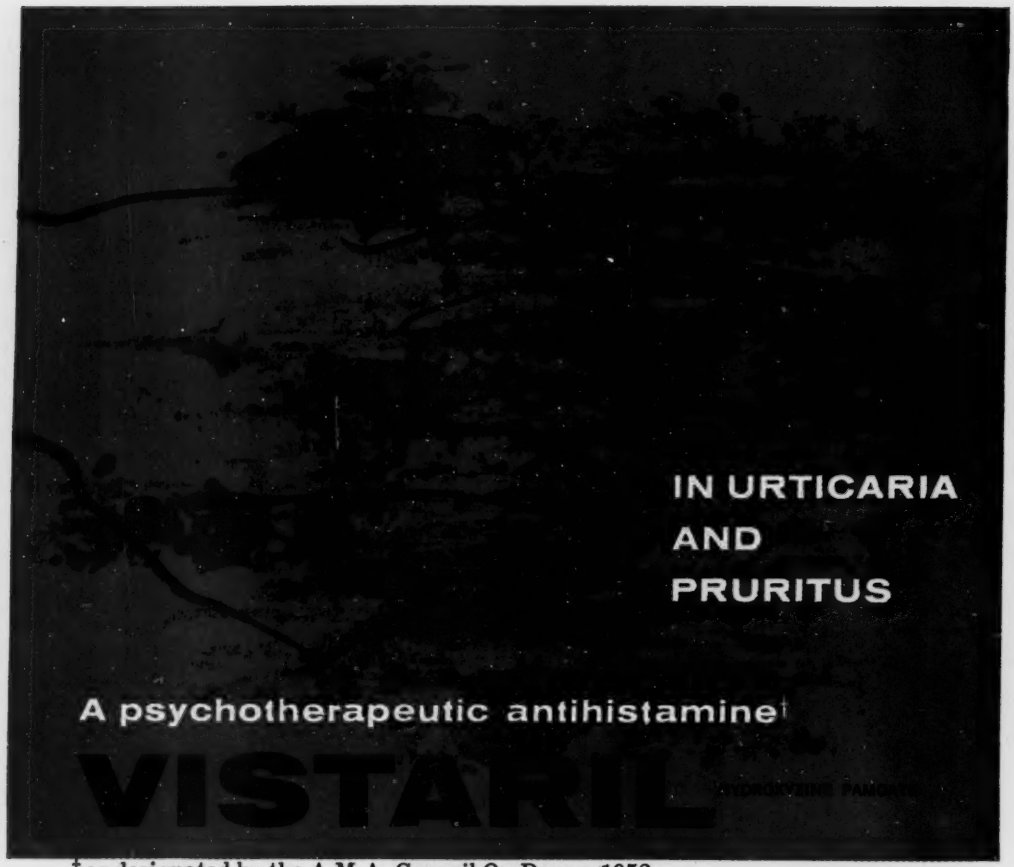

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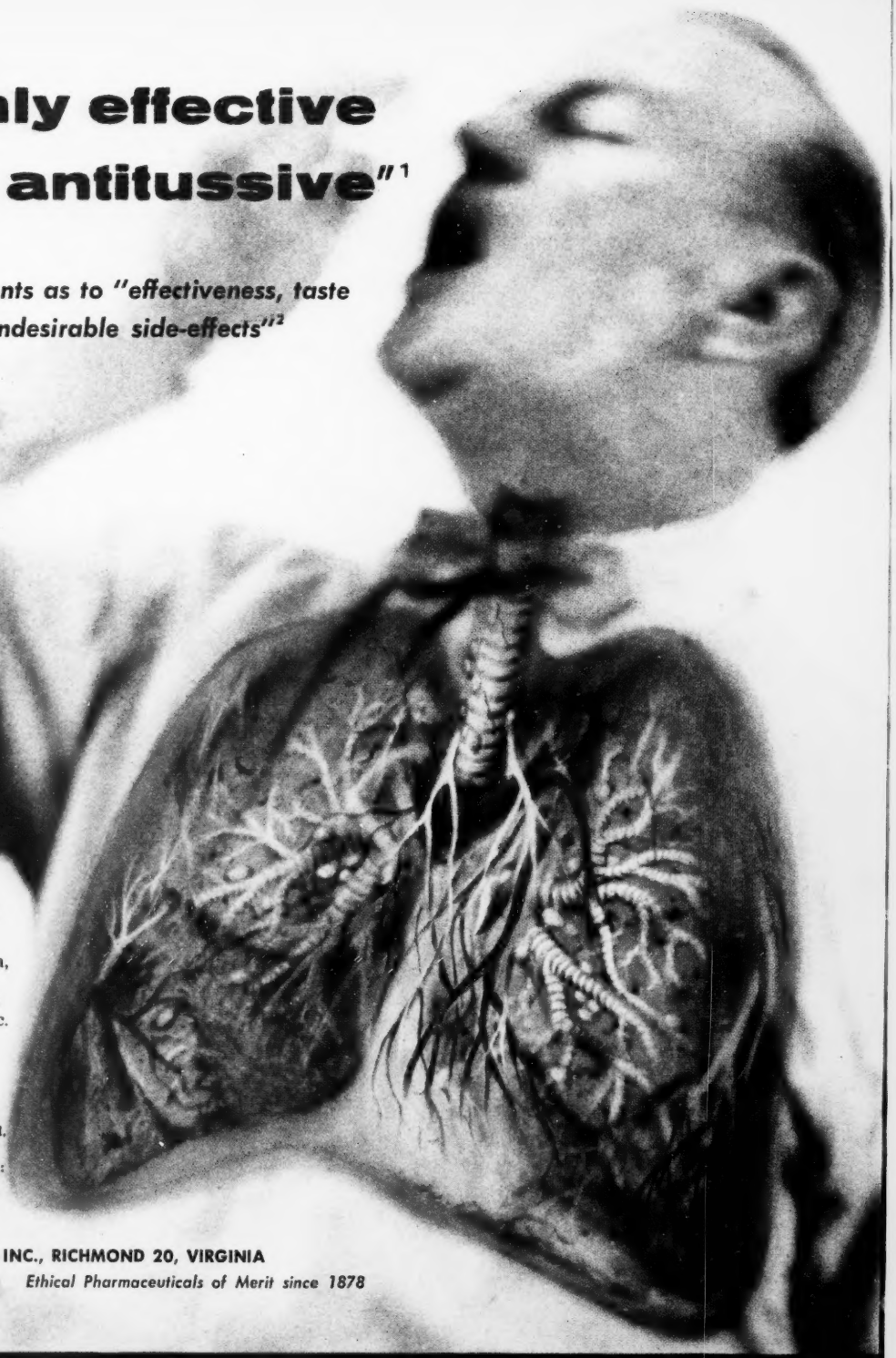

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2. Hayes, E. W., and Jacobs, L. S.: Dis. Chest 30:441, 1956.

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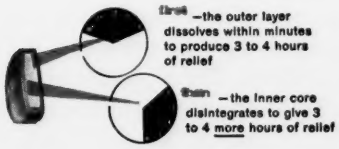
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Also available: For the occasional patient who requires only half dosage: timed-release TRIAMINIC JUVELETS. Each Juvelet is equivalent to ½ of a Triaminic Tablet.

For those patients who prefer liquid medication: TRIAMINIC SYRUP. Each 5 ml. tsp. of this palatable syrup is equivalent to ¼ of a Triaminic Tablet.

SMITH-DORSEY • a division of The Wander Company • Lincoln, Nebraska • Peterborough, Canada

Exactly how does new Halodrin* restore the "premenopausal prime" in postmenopausal women?

Webster defines "prime" as the period of greatest health, strength, and beauty. In a woman, these are the childbearing years between puberty and menopause—the years when her hormone production is highest.

The inevitable reduction in this hormone production as she enters the menopause often results in physical discomfort in the form of hot flushes, nervousness, insomnia, or a multiplicity of other symptoms with which you are familiar. Superimposed on this physical picture is the psychic trauma brought on by this unavoidable evidence of aging. The thing that brings her to a physician is simply that she "feels bad."

You can't make her 35 again—but the odds are good that you can make her feel like it! The secret is a combination of reassurance and hormones. The exact form and amount of the former defy objective analysis, but the latter can now be provided with scientific precision. Reduced to essentials, here is the explanation of exactly how hormones—in the form of Upjohn's new Halodrin—restore the "premenopausal prime."

The normal premenopausal woman excretes estrogens in the urine in the form of estradiol, estrone, and estriol, in an approximate 28-day average ratio of 39:15:46. Starting with this urinary excretion of estrogens, it is possible to calculate backwards and estimate the amount of estradiol that must have been secreted endogenously in order to produce these urinary levels. This is possible because the proportion of estrogens which appears in the urine following parenteral administration has been established in castrated women.

On this basis, the average endogenous output of estrogens is about 160 micrograms per day during a menstrual cycle, and 80 micrograms per day in postmenopausal women (see chart opposite). Therefore, the restoration of the "premenopausal prime" in the postmenopausal woman requires the replacement of approximately the equivalent of the 80 micrograms of estradiol per day that she no longer secretes endogenously.

Oral ethinyl estradiol is about 2 to 2½ times as potent as parenteral estradiol. Therefore, the replacement of 80 micrograms of endogenous estradiol production per day is accomplished by the oral administration of 32 to 40 micrograms of ethinyl estradiol per day.

Each Halodrin tablet contains 20 micrograms of ethinyl estradiol, which means that the recommended dosage of 2 tablets per day provides 40 micrograms of ethinyl estradiol. This offsets the loss of 80 micrograms of endogenous estradiol production in the menopausal woman; i.e., restores the "premenopausal prime."

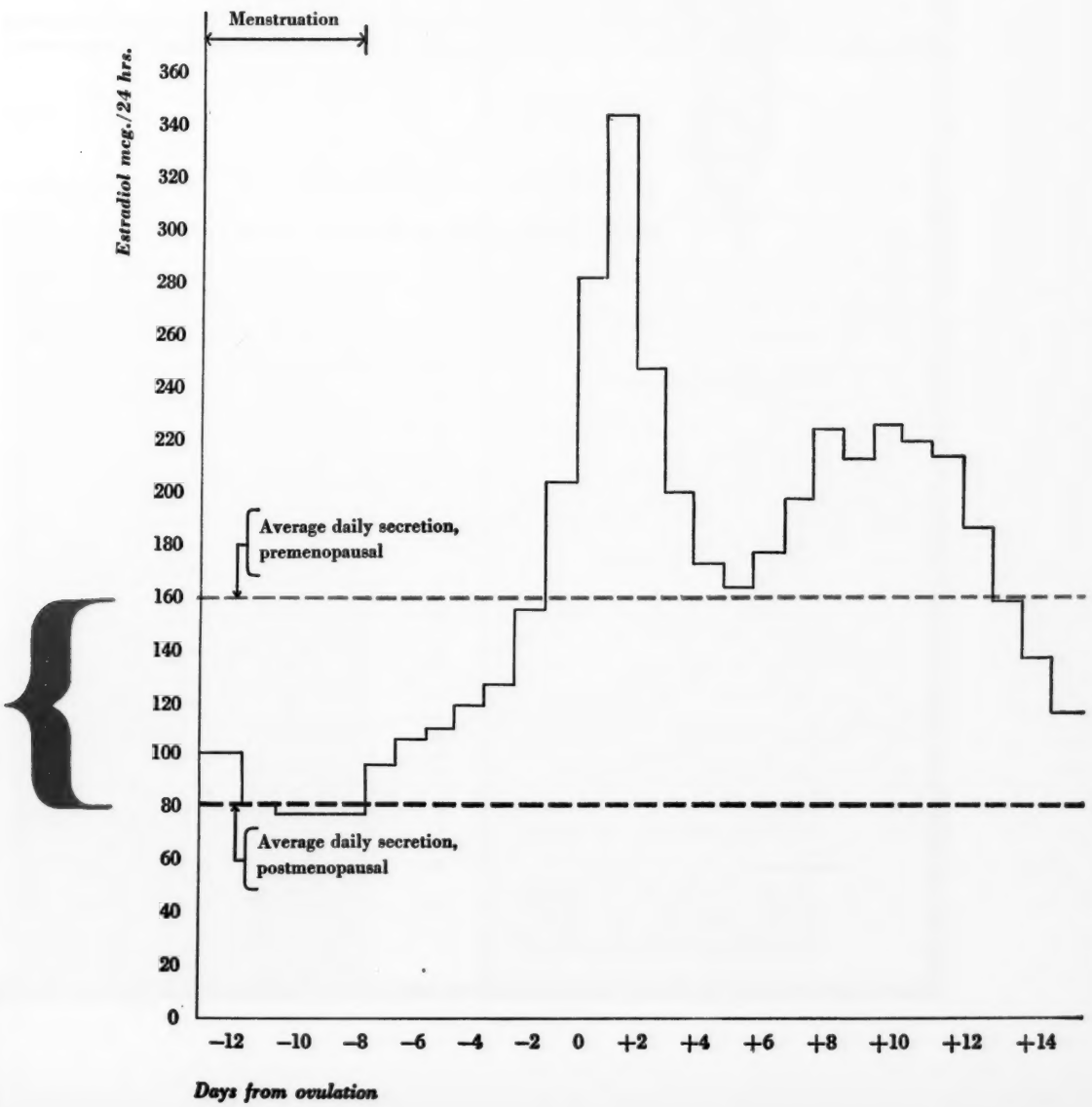
Each Halodrin tablet also contains 1 mg. of Upjohn-developed Halotestin* (fluoxymesterone)—the most potent oral androgen known. The primary purpose is to "buffer" the ethinyl estradiol just enough to prevent breakthrough bleeding, which is obviously undesirable in the menopause. It also exerts other beneficial hormonal effects, one of which, in common with ethinyl estradiol, is a powerful anabolic action so desirable in patients of advanced years.

Upjohn

*TRADEMARK, REG. U. S. PAT. OFF.

COPYRIGHT 1958, THE UPJOHN COMPANY

Endogenous estrogen secretion (mcg./24 hours) (calculated from average 24-hour urinary excretion of estradiol, estrone, and estriol)



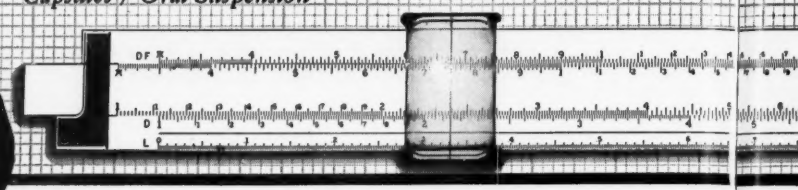
PRONOUNCED TAY-O

℞ Tao*

(triacetyloleandomycin)

Capsules / Oral Suspension

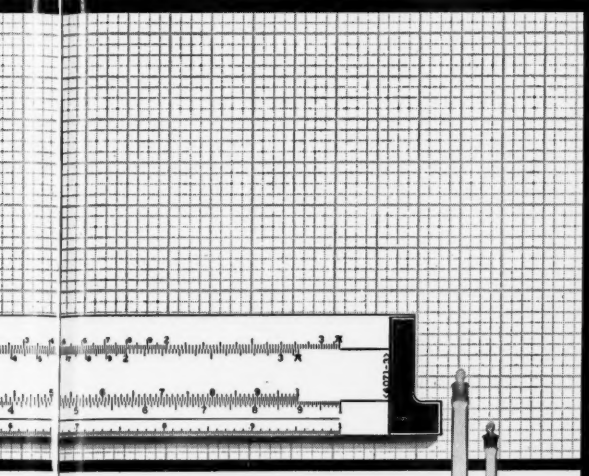
designed for superior control of common Gram-positive infections



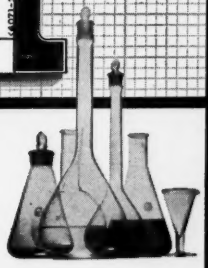
in the patient:

95% effective in published cases[1-8]

Conditions treated	No. of Patients	Cured	Improved	Failure
ALL INFECTIONS	558	448	80	30
Respiratory infections	258	208	31	19
Pharyngitis and/or tonsillitis	65	58	5	2
Pneumonia	90	66	17	7
Infectious asthma	44	38	—	6
Otitis media	31	29	2	—
Other respiratory (bronchitis, bronchiolitis, bronchiectasis, pneumonitis, laryngotracheitis, strep throat)	28	17	7	4
Skin and soft tissue infections	230	191	38	1
Infected wounds, incisions and lacerations	41	33	8	—
Abscesses	51	43	8	—
Furunculosis	58	51	6	1
Acne, pustular	43	28	15	—
Pyoderma	19	19	—	—
Other skin and soft tissue (infected burns, cellulitis, impetigo, ulcers, others)	18	17	1	—
Genitourinary infections	28	19	3	6
Acute pyelitis and cystitis	10	8	2	—
Urethritis with gonorrhea or cystitis	8	8	—	—
Pyelonephritis	4	1	—	3
Salpingitis	5	1	1	3
Pelvic inflammation with endometriosis	1	1	—	—
Miscellaneous (adenitis, enteritis, enterocolitis, subacute bacterial endocarditis, fever, hematoma, staphylococcus carriers, osteomyelitis, tenosynovitis, septic arthritis, acute bursitis, periarthritis)	42	30	8	4

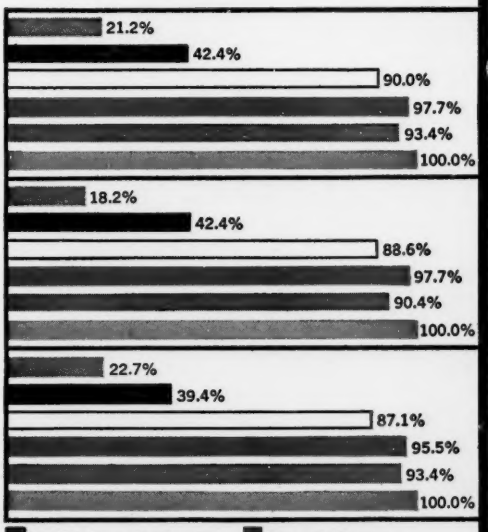


in the laboratory:



over 90% effective against resistant staph

COMPARATIVE TESTS BY THREE METHODS (DISC, TUBE DILUTION, CYLINDER PLATE) ON 130 STAPHYLOCOCCI[9]



Percentage of organisms inhibited by the range of concentrations listed for each antibiotic.

Other Tao advantages:

Rapidly absorbed—stable in gastric acid,[7] TAO needs no retarding protective coating

Low in toxicity—freedom from side effects in 96% of patients treated; cessation of therapy is rarely required

Highly palatable—"practically tasteless"[7] active ingredient in a pleasant cherry-flavored medium.

Dosage and Administration: Dosage varies according to the severity of the infection. **For adults,** the average dose is 250 mg. q.i.d.; to 500 mg. q.i.d. in more severe infections. **For children** 8 months to 8 years, a daily dose of approximately 30 mg./Kg. body weight in divided doses has been found effective. Since TAO is therapeutically stable in gastric acid, it may be administered without regard to meals.

Supplied: TAO Capsules—250 mg. and 125 mg., bottles of 60. TAO for Oral Suspension—1.5 Gm., 125 mg. per teaspoonful (5 cc.) when reconstituted; unusually palatable cherry flavor; 2 oz. bottle.

References: 1. Koch, R., and Asay, L. D.: J. Pediat., in press. 2. Leming, B. H., Jr., et al.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 3. Mellman, et al.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 4. Olansky, S., and McCormick, G. E., Jr.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 5. Shubin, H., et al.: Antibiotics Annual 1957-1958, New York, N. Y., Medical Encyclopedia, Inc., 1958, p. 679. 6. Isenberg, H., and Karelitz, S.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 7. Wennersten, J. R.: Antibiotic Med. & Clin. Therapy 5:527 (Aug.) 1958. 8. Kaplan, M. A., and Goldin, M.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 9. Truant, J. P.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1953.

TAO dosage forms— for specific clinical situations

TAO Pediatric Drops

For children—flavorful, easy to administer.

Supplied: When reconstituted, 100 mg. per cc. Special calibrated droppers—5 drops (approx. 25 mg.) and 10 drops (approx. 50 mg.). 10 cc. bottle.

TAO-AC (TAO analgesic, antihistaminic compound)

To eradicate pain and physical discomfort in respiratory disorders.

Supplied: In bottles of 36 capsules.

TAOMID® (TAO with triple sulfas)

For dual control of Gram-positive and Gram-negative infections.

Supplied: Tablets, bottles of 60. Oral Suspension, bottles of 60 cc.

Intramuscular or Intravenous

For direct action—in clinical emergencies.

Supplied: In 10 cc. vials.

®TRADEMARK

New York 17, N.Y.
Division, Chas. Pfizer & Co., Inc.
Science for the World's Well-Being

PATIENT EXPRESSES CONFIDENCE IN DOCTOR'S COUGH MEDICINE

AN EXPRESSION OF CONFIDENCE in your therapeutic ability may be expected when you prescribe Pyribenzamine Expectorant for cough in children. A combination of 3 active agents, Pyribenzamine Expectorant with Ephedrine relieves congestion, makes breathing easier, promotes productive expectoration. And the cherry flavor is usually quite acceptable to pediatric tastes.

DOSAGE: ½ to 1 teaspoon every 3 or 4 hours.

SUPPLIED: Expectorant with Ephedrine, containing 30 mg. Pyribenzamine citrate 10 mg. ephedrine sulfate and 80 mg. ammonium chloride per 4-ml. teaspoon.

ALSO AVAILABLE: Pyribenzamine Expectorant with Codeine and Ephedrine, same formula plus 8 mg. codeine phosphate (exempt narcotic).

PYRIBENZAMINE® citrate (tripelennamine citrate CIBA)

2/2626MB

Pyribenzamine® Expectorant with EPHEDRINE

CIBA
SUMMIT, N. J.

83% MAJOR (Grade I and II) IMPROVEMENT*

in Rheumatoid Arthritis

*Using combined drug therapy with **PLAQUENIL** or Aralen® as maintenance therapy. With Plaquenil or Aralen alone 62% grade I and II improvement. (Scherbel, A.L.; Harrison, J.W., and Atdjian, Martin: Cleveland Clin. Quart. 25:95, April, 1958. Report on 805 patients with rheumatoid arthritis or related diseases.)

Reasons for Failure:

1. Treatment discontinued too soon (percentage of patients improved increases substantially after first six months).
2. Patients in relapse after prolonged steroid therapy are resistant to Plaquenil or Aralen treatment for several months.

Plaquenil sulfate is supplied in tablets of 200 mg., bottles of 100.

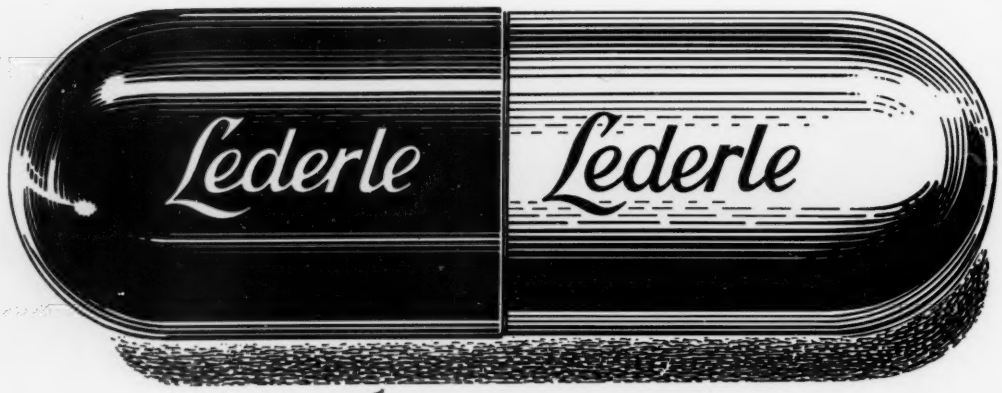
Dose: Initial — 400 to 600 mg. (2 or 3 tablets) daily.
Maintenance — 200 to 400 mg. (1 or 2 tablets) daily.

Write for Booklet.

Aralen (brand of chloroquine) and Plaquenil (brand of hydroxychloroquine), trademarks reg. U.S. Pat. Off.

Winthrop LABORATORIES
New York 18, N. Y.

in
this capsule
lives the
most widely
used

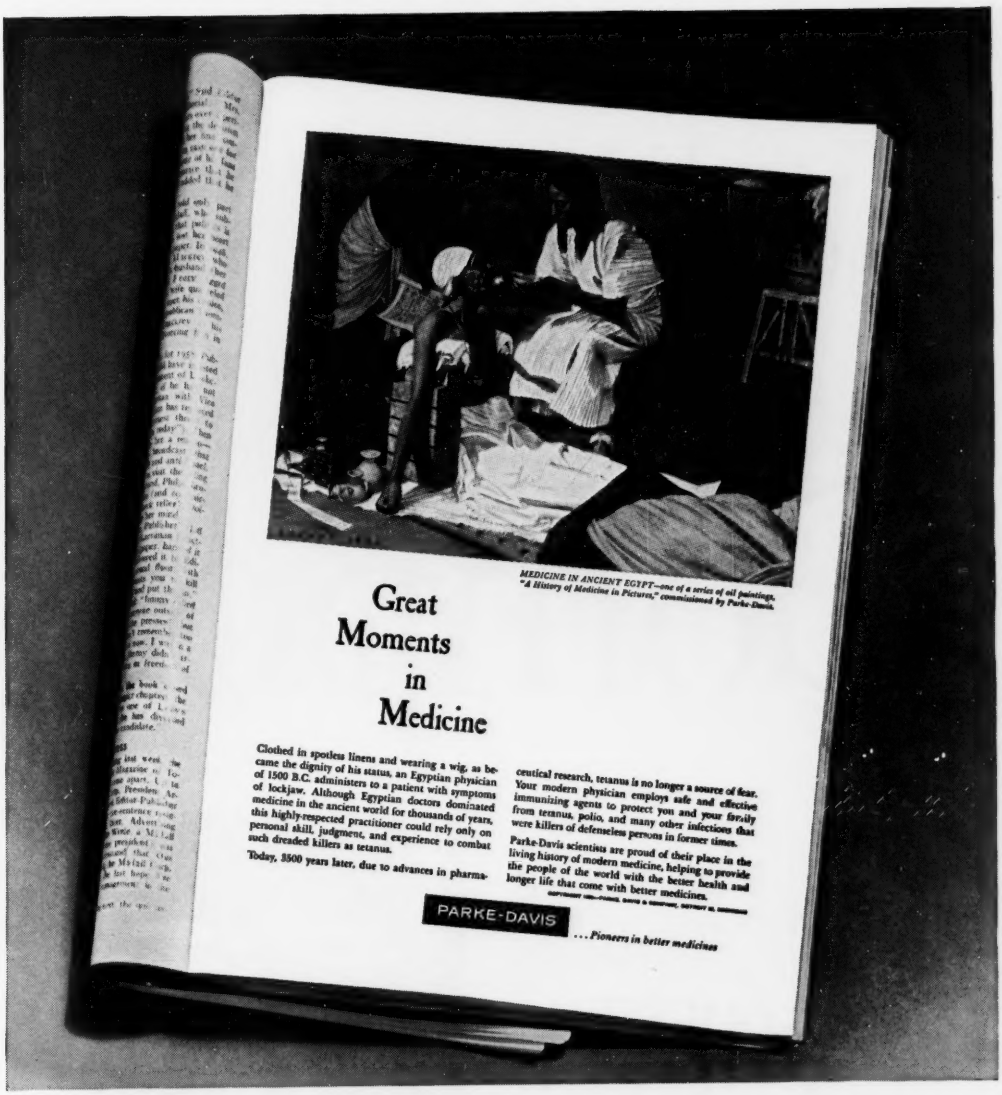


the most
widely useful
antibiotic
in the
world
Achromycin® V

Tetracycline with Citric Acid Lederle

SUPPLIED IN CAPSULES OF 250 MG.
WITH 250 MG. CITRIC ACID,
AND 100 MG. WITH 100 MG. CITRIC ACID.

Lederle LEDERLE LABORATORIES, A DIVISION OF AMERICAN CYANAMID COMPANY, PEARL RIVER, NEW YORK


MEDICINE IN ANCIENT EGYPT—one of a series of oil paintings, "A History of Medicine in Pictures," commissioned by Parke-Davis.
Great Moments in Medicine
Clothed in spotless linens and wearing a wig, as became the dignity of his status, an Egyptian physician of 1500 B.C. administers to a patient with symptoms of lockjaw. Although Egyptian doctors dominated medicine in the ancient world for thousands of years, this highly-respected practitioner could rely only on personal skill, judgment, and experience to combat such dreaded killers as tetanus.
Today, 3500 years later, due to advances in pharmaceutical research, tetanus is no longer a source of fear. Your modern physician employs safe and effective immunizing agents to protect you and your family from tetanus, polio, and many other infections that were killers of defenseless persons in former times.
Parke-Davis scientists are proud of their place in the living history of modern medicine, helping to provide the people of the world with the better health and longer life that come with better medicines.
PARKE-DAVIS
...Pioneers in better medicines

Medicine's priceless past is but prologue to its brilliant present and future. To help provide a better public understanding and awareness of Medicine's proud traditions, Parke-Davis will launch a unique and informative new institutional advertising campaign this month. GREAT MOMENTS IN MEDICINE will depict historically accurate scenes of advancements in Medicine through the centuries. This very colorful and interesting Parke-Davis campaign will appear regularly during 1959 in LIFE, SATURDAY EVENING POST, TIME, READER'S DIGEST, and TODAY'S HEALTH. As a preview to the medical profession, the first ad in this series is reprinted above. Within a few weeks millions of people throughout the United States—and the world—will also see it.

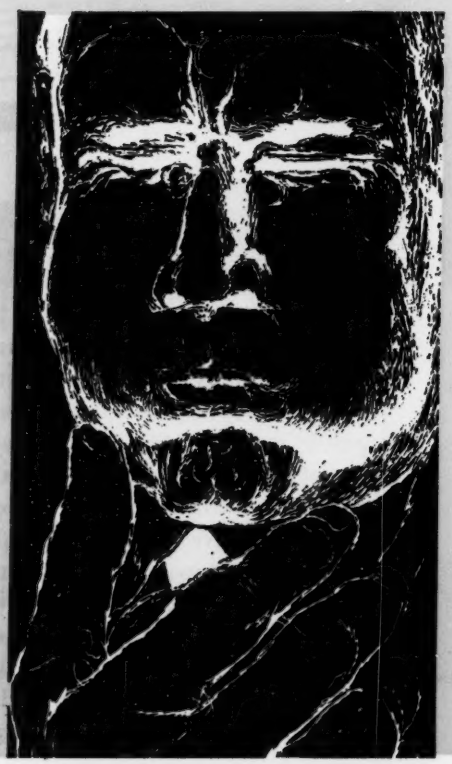
PARKE-DAVIS

...Pioneers in better medicines

the higher
blood levels of
potassium
penicillin V

Compoc

FOR
THOSE
COMMON
BACTERIAL
PROBLEMS



IN FILMTAB® / IN ORAL SOLUTION
AND IN COMBINATION WITH SULFAS

illin®-VK

(POTASSIUM PENICILLIN V)

INDICATIONS

Against all penicillin-sensitive organisms. When combined with Sulfas, COMPOCILLIN-VK is especially effective in treating mixed infections such as may occur in the respiratory or urinary tract.

DOSAGE

Range is from 125 mg. (200,000 units) three times daily to 250 mg. (400,000 units) every four hours. Children's dosage is determined by body weight. When combined with sulfa triad, range is one Filmtab three times daily to two Filmtabs every four hours.

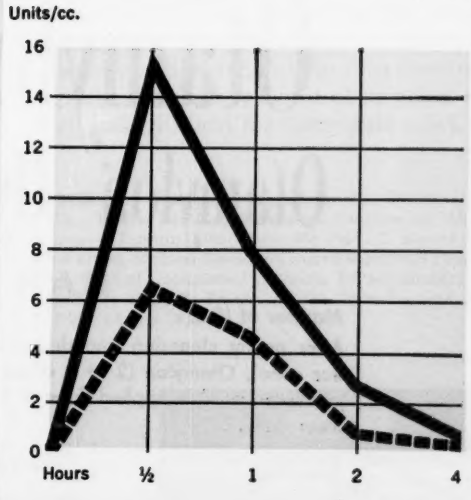
SUPPLIED

COMPOCILLIN-VK Filmtabs: 125 mg. (200,000 units), bottles of 50 and 100; 250 mg. (400,000 units), bottles of 25 and 100.

COMPOCILLIN-VK Granules for Oral Solution: In 40-cc. and 80-cc. bottles. When reconstituted, each tasty 5-cc. teaspoonful of cherry-flavored solution represents 125 mg. (200,000 units) of potassium penicillin V.

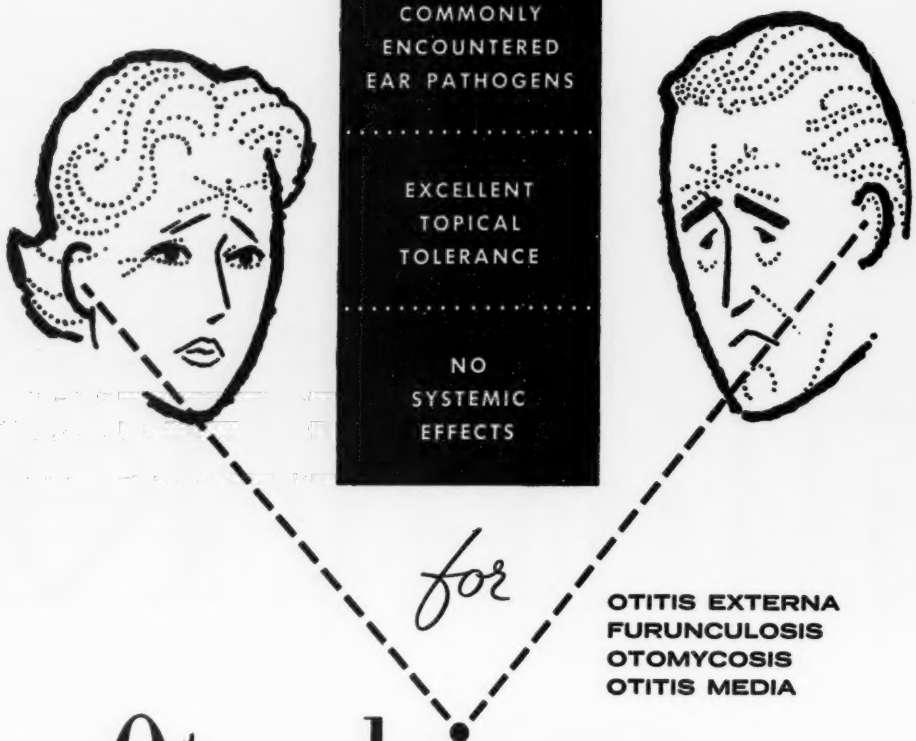
COMPOCILLIN-VK with Sulfas: Each Filmtab contains 125 mg. (200,000 units) of potassium penicillin V and 500 mg. of sulfonamides. At all pharmacies.

Abbott



The highest levels of Filmtab Compocillin-VK.
The median levels of Filmtab Compocillin-VK.
Note the high upper levels and averages at ½ hour, and at 1 hour.
Doses of 400,000 units were administered before mealtime to 40 subjects involved in this study.

©FILMTAB—FILM-SEALED TABLETS, ABBOTT, PAT. APPLIED FOR.



for

OTITIS EXTERNA
FURUNCULOSIS
OTOMYCOSIS
OTITIS MEDIA

Otamylon® and Otamylon with Hydrocortisone

EAR DROPS

BACTERICIDAL
FUNGICIDAL
ANALGESIC
HYGROSCOPIC

Manner of Use:

After gently cleansing and drying the ear canal, Otamylon (2 or 3 drops or moistened wick) is applied three or four times daily.

Supplied:

Otamylon—bottles (15 cc.) with dropper. Otamylon c̄ Hydrocortisone—15 cc. combination package to be mixed prior to dispensing.

Otamylon is a clear, odorless, sterile, viscid liquid containing:
Sulfamylon® HCl 5%
Benzocaine 5%
Anhydrous glycol q.s. 100

Otamylon with Hydrocortisone:
Same formula with 0.02% hydrocortisone.

Winthrop LABORATORIES
New York 18, N.Y.

Otamylon and Sulfamylon (brand of mafenide), trademarks reg. U. S. Pat. Off.

maintenance therapy is still fundamental treatment

Sound, conservative therapy with salicylates has been consistently reaffirmed as basic, long-term maintenance therapy in the arthritides.[1,2,3]

Buffered Pabirin provides superior maintenance therapy. It epitomizes fundamental long-term basic therapy since it can be given month after month without serious complications and with minimal problems to patient and doctor alike.

Buffered Pabirin is formulated to provide high and sustained salicylate blood levels. Each tablet consists of an outer layer containing a buffer (aluminum hydroxide), para-aminobenzoic acid, and ascorbic acid; a core of acetylsalicylic acid.

In the stomach, the outer layer quickly releases the buffer, which protects against nausea, dyspepsia and other gastrointestinal symptoms so frequently encountered with salicylates alone. The core of Buffered Pabirin then disintegrates rapidly, permitting rapid absorption of the acetylsalicylic acid for faster pain relief.

References: 1. Hart, D.; Bagnall, A. W.; Bunim, J. J., and Polley, F. H.: Ninth International Congress on Rheumatic Diseases, Toronto, Ont. (June 25) 1957. 2. Report of Joint Committee, Medical Research Council & Nuffield Foundation, Treatment of Rheumatoid Arthritis, British Medical Journal (April 13) 1957. 3. Friend, D. G.: New England J. Med. *257*:278 (Aug.) 1957.

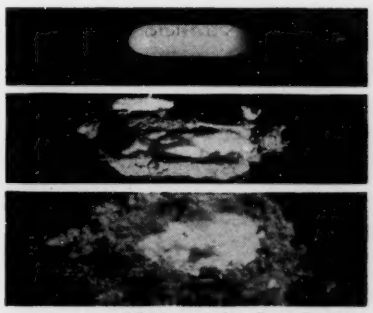
Buffered Pabirin® *Tablets*

Each tablet contains:

Acetylsalicylic acid (5 gr.)	300 mg.
Para-aminobenzoic acid (5 gr.)	300 mg.
Ascorbic acid	50 mg.
Dried aluminum hydroxide gel	100 mg.

All Buffered Pabirin is sodium- and potassium-free.

Dosage: Two or three tablets 3 or 4 times daily.



Photographs show 2-stage Tandem Release disintegration.

SMITH-DORSEY • a division of The Wander Company • Lincoln, Nebraska • Peterborough, Canada

to prevent the sequelae of u.r.i. ... and relieve the symptom complex

ACHROCIDIN®

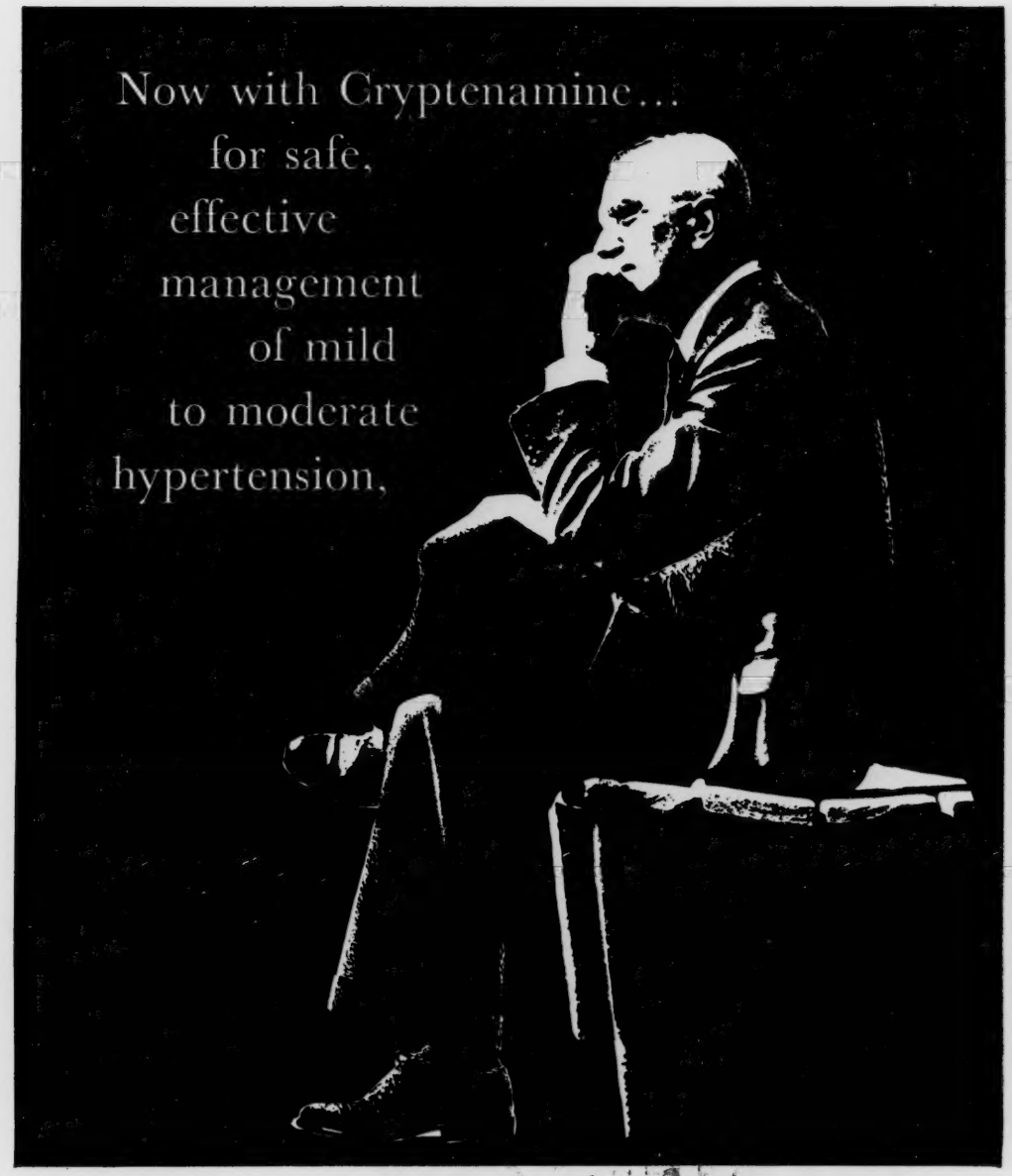
Tetracycline-Antihistamine-Analgesic Compound Lederle

Otitis, tonsillitis, adenitis, sinusitis, bronchitis or pneumonitis develops as a serious bacterial complication in about one in eight cases of acute upper respiratory infection.[1] To protect and relieve the "cold" patient... ACHROCIDIN.

Usual dosage: 2 tablets or teaspoonfuls q.i.d. (equiv. 1 Gm tetracycline). Each TABLET contains: ACHROMYCIN® Tetracycline (125 mg.), phenacetin (120 mg.), caffeine (30 mg.), salicylamide (150 mg.), chlorothen citrate (25 mg.). Also as SYRUP (lemon-lime flavored), caffeine-free.

1. Based on estimate by Van Volkenburgh, V. A., and Frost, W. H.: Am. J. Hygiene 71:122 (Jan.) 1933

Lederle LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York



℞ Veratrite®

Prescribed with confidence 8,863,769 times Veratrite continues to be the antihypertensive of choice for treating geriatric patients.

Veratrite effectively reduces blood pressure through action on the sympathetic nervous system, without detriment to the cardiac output.

Each VERATRITE tabule contains:

Cryptenamine (tannates) 40 C.S.R.* Units	
Sodium nitrite	1 gr.
Phenobarbital	¼ gr.

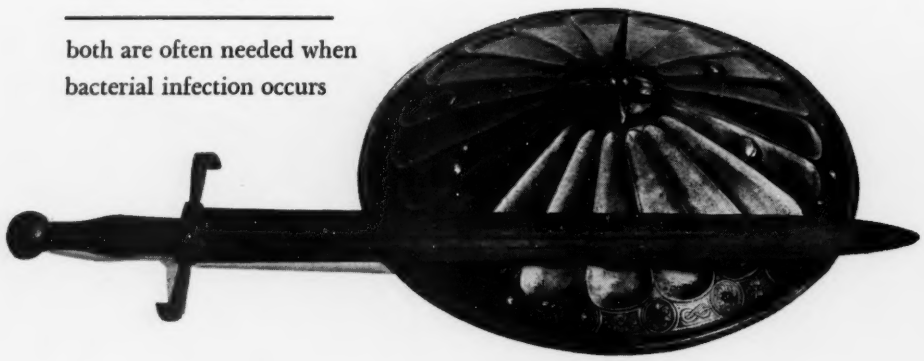
*Carotid Sinus Reflex

IRWIN, NEISLER & CO. • DECATUR, ILLINOIS

Neisler

▮ prompt, aggressive
antibiotic action
▮ a reliable defense against
monilial complications

both are often needed when
bacterial infection occurs



for a direct strike at infection

Mysteclin-V contains tetracycline phosphate complex

It provides a direct strike at all tetracycline-susceptible organisms (most pathogenic bacteria, certain rickettsias, certain large viruses, and Endamoeba histolytica).

It provides the new chemical form of the world's most widely prescribed broad spectrum antibiotic.

It provides unsurpassed initial blood levels – higher and faster than older forms of tetracycline – for the most rapid transport of the antibiotic to the site of infection.

for protection against monilial complications

Mysteclin-V contains Mycostatin

It provides the antifungal antibiotic, first tested and clinically confirmed by Squibb, with specific action against Candida (Monilia) albicans.

It acts to prevent the monilial overgrowth which frequently occurs whenever tetracycline or any other broad spectrum antibiotic is used.

It protects your patient against antibiotic-induced intestinal moniliasis and its complications, including vaginal and anogenital moniliasis, even potentially fatal systemic moniliasis.

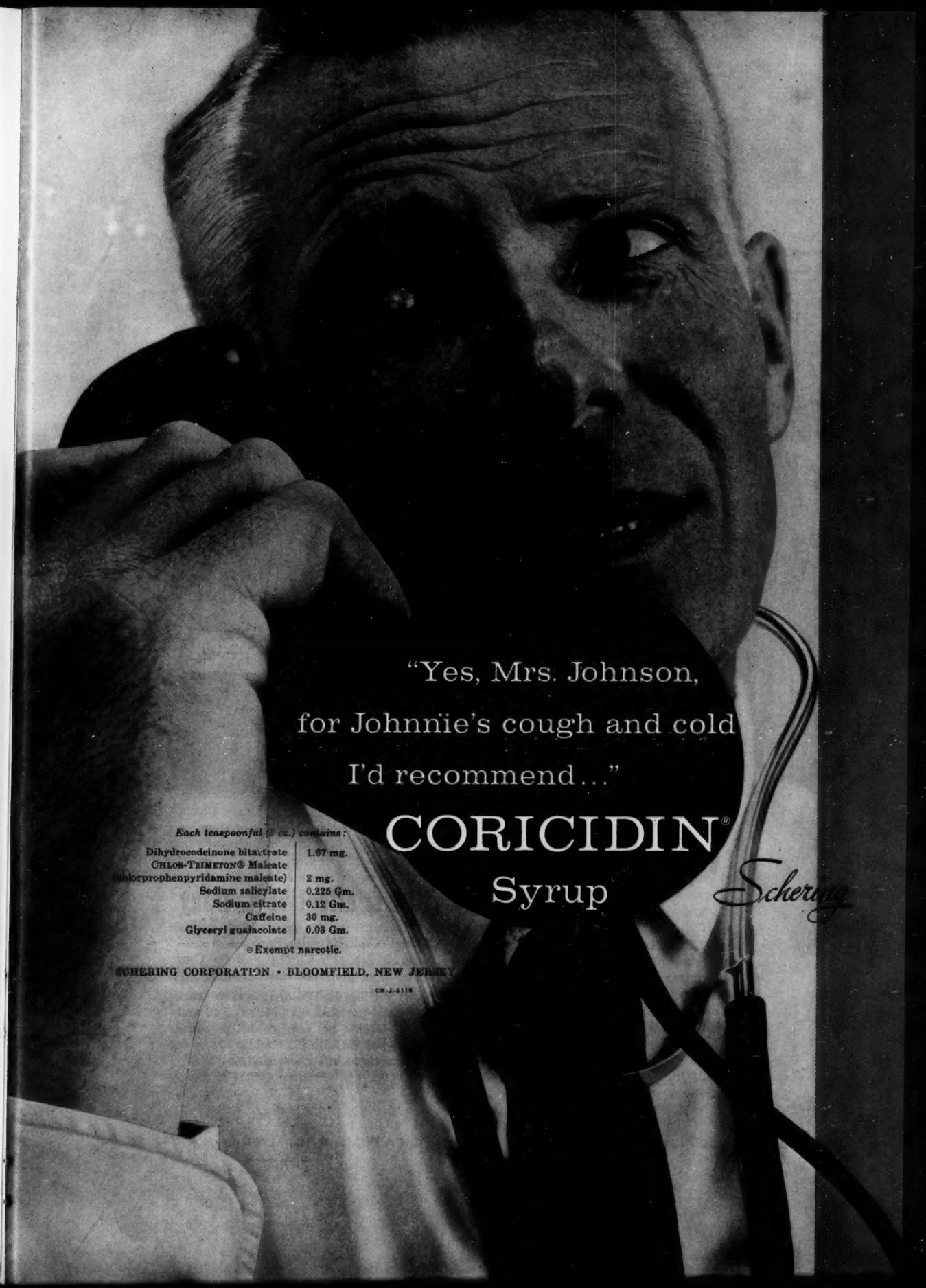
MYSTECLIN-V

Squibb Tetracycline Phosphate Complex (Sumycin) and Nystatin (Mycostatin)

Capsules *(250 mg./250,000 u.), bottles of 16 and 100.* Half-strength Capsules *(125 mg./125,000 u.), bottles of 16 and 100.*
Suspension *(125 mg./125,000 u. per 5 cc.) 60 cc. bottles.* Pediatric Drops *(100 mg./100,000 u. per cc.). 10 cc. dropper bottles.*

SQUIBB *Squibb Quality – the Priceless Ingredient*

'MYSTECLIN'®, 'SUMYCIN'® AND 'MYCOSTATIN'® ARE SQUIBB TRADEMARKS


"Yes, Mrs. Johnson,
for Johnnie's cough and cold
I'd recommend..."
CORICIDIN®
Syrup
Schering
Each teaspoonful (5 cc.) contains:
Dihydrocodeinone bitartrate 1.67 mg.
CHLOR-TRIMETON® Maleate (chlorprophenpyridamine maleate) 2 mg.
Sodium salicylate 0.225 Gm.
Sodium citrate 0.12 Gm.
Caffeine 30 mg.
Glyceryl guaiacolate 0.03 Gm.
⊙ Exempt narcotic.
SCHERING CORPORATION • BLOOMFIELD, NEW JERSEY
CR-J-6118

V-CILLIN K®...

dependable, fast, effective therapy

V-Cillin K produces therapeutic blood levels in all patients within five to fifteen minutes after administration—levels higher than those attained with any other oral penicillin. Infections resolve rapidly. *Dosage:* 125 or 250 mg. three times daily. *Supplied:* In scored tablets of 125 and 250 mg. (200,000 and 400,000 units).

New: V-Cillin K® Sulfa. Each tablet combines 125 mg. of V-Cillin K with 0.5 Gm. of the three preferred sulfonamides.

New: V-Cillin K, Pediatric, a taste treat for young patients. In bottles of 40 and 80 cc. Each 5-cc. teaspoonful provides 125 mg. of V-Cillin K.

V-Cillin K® (penicillin V potassium, Lilly)
V-Cillin K® Sulfa (penicillin V potassium with triple sulfas, Lilly)

ELI LILLY AND COMPANY • INDIANAPOLIS 6, INDIANA, U. S. A.

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The JOURNAL *of the*
KANSAS MEDICAL SOCIETY

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Volume LX **FEBRUARY, 1959** **No. 2**

Symposium on Rural Health

A symposium on subjects pertaining to rural health is presented in this issue of the JOURNAL as the Editorial Board's contribution to the success of the National Conference on Rural Health. Reprints of the articles published here will be distributed to those attending the conference.

An Invitation to the Conference On Rural Health

The Kansas Medical Society has the privilege, this year, to be host to the National Rural Health Conference which is to be held in Wichita, at the Broadview Hotel, March 5, 6, 7.

The theme of this conference is "Horizons in Health." This conference is a part of our centennial program. Each doctor is urged to attend and to encourage other community leaders to take advantage of this unusual opportunity to discuss new methods to help solve community problems.

The program for this conference has been prepared by the Rural Health Council of the American Medical Association and the Committee on Rural Health of the Kansas Medical Society. Representatives from several groups interested in health problems of the Kansas people also served on the program committee and have spent long hours preparing for this meeting.

Kansas was chosen as the site of the conference through the efforts of the state society and through the influence of the Farm Bureau and several other farm organizations of Kansas. We are getting strong support from our state farm organizations.

Kansas is well known for several reasons: the Murphy Kansas plan; the successful Kansas University preceptor program; the Kansas University postgraduate courses for general practitioners; the work of the Menninger Foundation, and many other outstanding projects. So we can expect a great national interest in this meeting.

The conference is an opportunity for each physician to show his willingness to cooperate to help solve community problems. Much of the program will be an open panel type of discussion with opportunities for questions and answers. We believe many misunderstandings can be removed by discussion. Also, that many health problems can be solved by the individual and by the local community if they have proper information and intelligent leadership. The committee believes such a conference will do much to help the doctor understand the farmers' problem and vice versa.

Will you help make the conference a success by attending and by urging responsible leaders in your community to attend?

VIRGIL E. BROWN, M.D., *Chairman*
Committee on Rural Health

The Rural Water Supply

Outline of Program in Kansas for Providing Safe and Palatable Water

DWIGHT F. METZLER, ***Topeka***

Thirty-eight per cent of the population in Kansas, 781,650 persons, depends upon private sources for drinking water. Most of these persons live on farms and in small communities which do not have a public water supply, and their water comes from about 25,000 different wells, cisterns, and springs. While much attention has been given to the safety of public water supplies in Kansas, particularly since the Newton epidemic of 1942 when some 3,000 persons suffered from bacillary dysentery from an accidentally contaminated water main, considerably less effort has been directed toward improving the quality of water for farms and other private sources.

The distribution of water on farms and at Kansas rural schools has improved with the great growth of electric transmission lines in rural areas. New wells and the building of water pressure systems have caused some improvement in the protection of small water supplies for farm homes, but not enough. Depending upon the season of the year, up to 50 per cent of all rural water samples tested at the Water and Sewage Laboratory of the Kansas State Board of Health are unsafe, and information submitted with the samples indicates that many more are inadequately protected from surface washing, seepage, and bacterial pollution.

Pure water does not exist in nature; practically all of it has been subjected to pollution, either while it was falling as rain, while it was flowing over the ground, or while it was percolating into the earth. Fortunately, percolation through the soil works to remove bacterial contaminants, although it permits the dissolution of soluble minerals such as chlorides, nitrates, and sulfates.

Most of the ground water which occurs in Kansas comes from rain which falls in the state. Contrary to the often expressed theory that great underground rivers flow from the Rocky Mountains into Kansas, very little ground water comes from outside the state; yet large amounts of ground water occur in Kansas, as shown by Figure 1. In the Equus beds of western Harvey and eastern Reno counties, five times as much water is stored as occurs in all of the surface streams of the state. The ground water in more than half of Kansas has been mapped under a cooperative program of the Kansas Geological Survey, the U. S. Geological Survey, the State Board of Agriculture, and the State Board of Health; bulletins are available from the Kansas Geological Survey at Lawrence for many of these counties.

Although wells supply water to most rural Kansas families, some areas of the state have such small amounts of ground water that farmers frequently depend upon cisterns. This is particularly true in the two eastern tiers of counties and the two northern tiers of counties east of Smith Center. Cisterns pose some special problems, as will be noted later, but with reasonable care they are satisfactory sources of supply. This area of ground water deficiency is one in which dug wells predominate and poor bacterial quality is common. During the summer as many as 90 per cent of samples from here may show bacteriological contamination. Toward the central and western parts of the state where wells are drilled and driven, the percentage of contaminated wells may be as low as 10.

With 38 per cent of Kansans dependent upon rural water supplies, it is important that contamination of wells and cisterns be eliminated or controlled. The program to provide safe water for rural residents of the state is outlined.

Bacterial Contamination

While typhoid is the best-publicized of waterborne diseases, paratyphoid, dysentery, infectious hepatitis, amebiasis, and possibly poliomyelitis are also transmitted by water. In judging the safety of water, authorities consider unsafe any supply which appears to have been contaminated by fecal organisms or which is open to pollution.

The State Water Laboratory makes bacteriological analyses upon the request of a local health officer, a practicing physician, or any citizen. If the sample is

Mr. Metzler is chief engineer for the Kansas State Board of Health and director of its Division of Sanitation.

collected by the local health officer, he makes a sanitary survey of the well at the time of collection and interprets the analyses. Local health officers are required by statute to make a sanitary inspection of each school before it opens in the fall, and collection of water samples is part of this inspection. If the sample is collected by the family, a charge of $2.00 is made for interpretation of the analysis. Special groups such as rural schools and Grade A dairies submit samples for analysis at regular intervals, usually annually. Rural groups, particularly 4-H clubs, carry out sampling programs in connection with well improvement programs.

Samples should be collected indoors if possible. If a hand pump and yard hydrant are the only available sources, the lip of the pump or hydrant should be flamed and water pumped from it for one to two minutes. Only sterile bottles obtained from the Water and Sewage Laboratory should be used. The stopper or lip of the bottle should not be touched. The bottle should be filled to within one inch of the top and the stopper should be replaced. It is particularly important that the sample be collected and mailed as soon as the bottle is received, and that it be identified on the sheet which accompanies the bottle. After the sample reaches the laboratory, three days are required for the bacteria to grow. The report is usually mailed out on the fourth day.

In public water supplies where chlorination is an accepted practice, the consistent attainment of zero coliforms is practical and desirable. Where the farm supply is a well or cistern, however, such a rigid standard is not necessary if the well is adequately constructed at least 100 feet away from possible sources of pollution such as septic tanks, privies, and feed lots. Well water having a low most probable number in the range of 2.1 to 4.7 per 100 ml. is satisfactory if the above conditions are met. The presence of coliform organisms appears to be seasonal, with the worst conditions occurring after spring and early summer rains. To maintain careful surveillance over the bacterial quality of a well, one sample should be collected in the summer and one in mid-winter.

When the laboratory reports a sample as contaminated, defects should be corrected through a careful study of the well and its surroundings, chlorinating the well, and taking a second sample after the chlorine is gone. Seldom is the water-bearing formation contaminated; instead the well is of faulty construction.

Well Location and Construction

Experience has shown that dug wells have the poorest bacteriological record, but in some areas they provide the only means for collecting sufficient

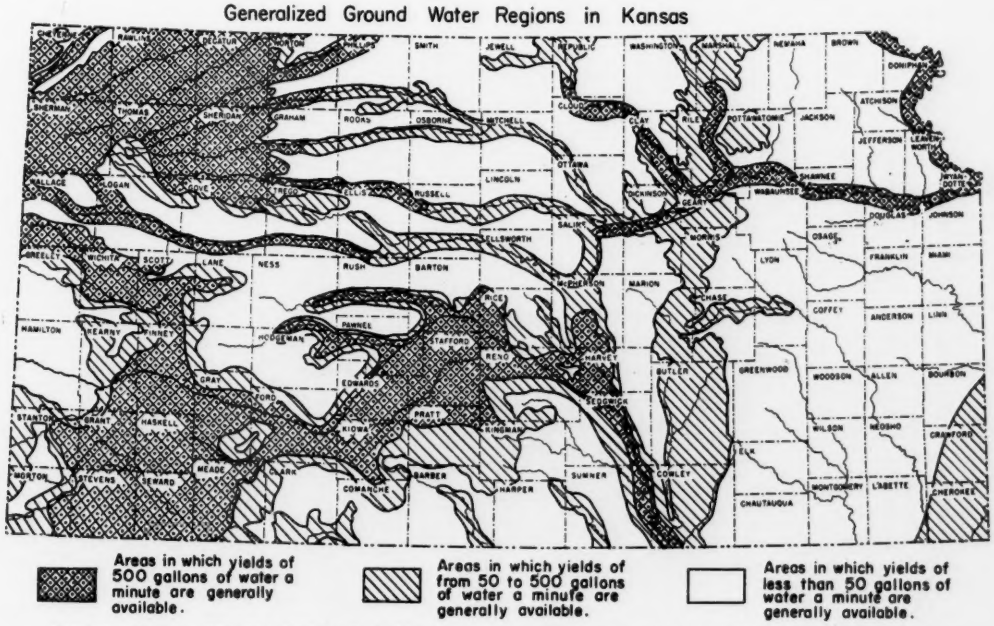

Generalized Ground Water Regions in Kansas
Areas in which yields of 500 gallons of water a minute are generally available.
Areas in which yields of from 50 to 500 gallons of water a minute are generally available.
Areas in which yields of less than 50 gallons of water a minute are generally available.
Map prepared by the Federal and State Geological Surveys, in cooperation with the State Boards of Agriculture and Health.

Figure 1

water for a family. Drilled wells as a group have a superior record for producing safe water; and with a few construction precautions, they are adequate. The safest wells, however, are those where a well point is attached to pipe and the pipe driven into the water-bearing formation.

All wells should be at a site having good surface drainage toward possible sources of pollution such as drains and barnyards. In addition they should be a minimum of 100 feet away from these and other possible sources of contamination. In creviced limestone and gravel formations, greater distances are necessary because of the ease with which pollution can travel. Shallow wells which do not extend below an impervious clay or rock formation may be unsafe because tree roots and rodent burrows allow polluted surface washings to enter the water-bearing aquifer. Abandoned wells and wells converted to cesspools should be located and filled with clay if they are in the vicinity of a proposed well.

Tight slabs with impervious walls to a depth of 20 feet are needed to protect against contamination. The slab should be set at a height which permits drainage away from it. Practically all ground water in Kansas is of good bacteriological quality at depths exceeding 15 feet. It becomes contaminated when wells are not sealed so that surface water flows into them or when nearby sinkholes or abandoned wells channel polluted water underground. Figures 2 and 3 show methods for protecting drilled and dug wells.*

Cisterns

Cisterns store rain water for uses requiring soft water, and they are also used where the supply of ground water is inadequate. Charcoal and sand filters are often used, but they are not recommended because they are not kept clean. Roof washings and bacteria which are trapped in the filter degrade the water rather than improve it. Good quality water can be assured by wasting the first water from a rain and storing the rest in a tight cistern. When this is not practical, the cistern can be treated with chlorine bleach at the rate of one cup of bleach per 1,000 gallons of water each time the cistern is filled. No chlorination is needed when a cistern is filled with water from a municipal supply.

Chemical Impurities in Water and Their Significance

Some of the common impurities and their effects are given in the table shown below, adapted from material in the *Texas Manual for Water Works Operators*.

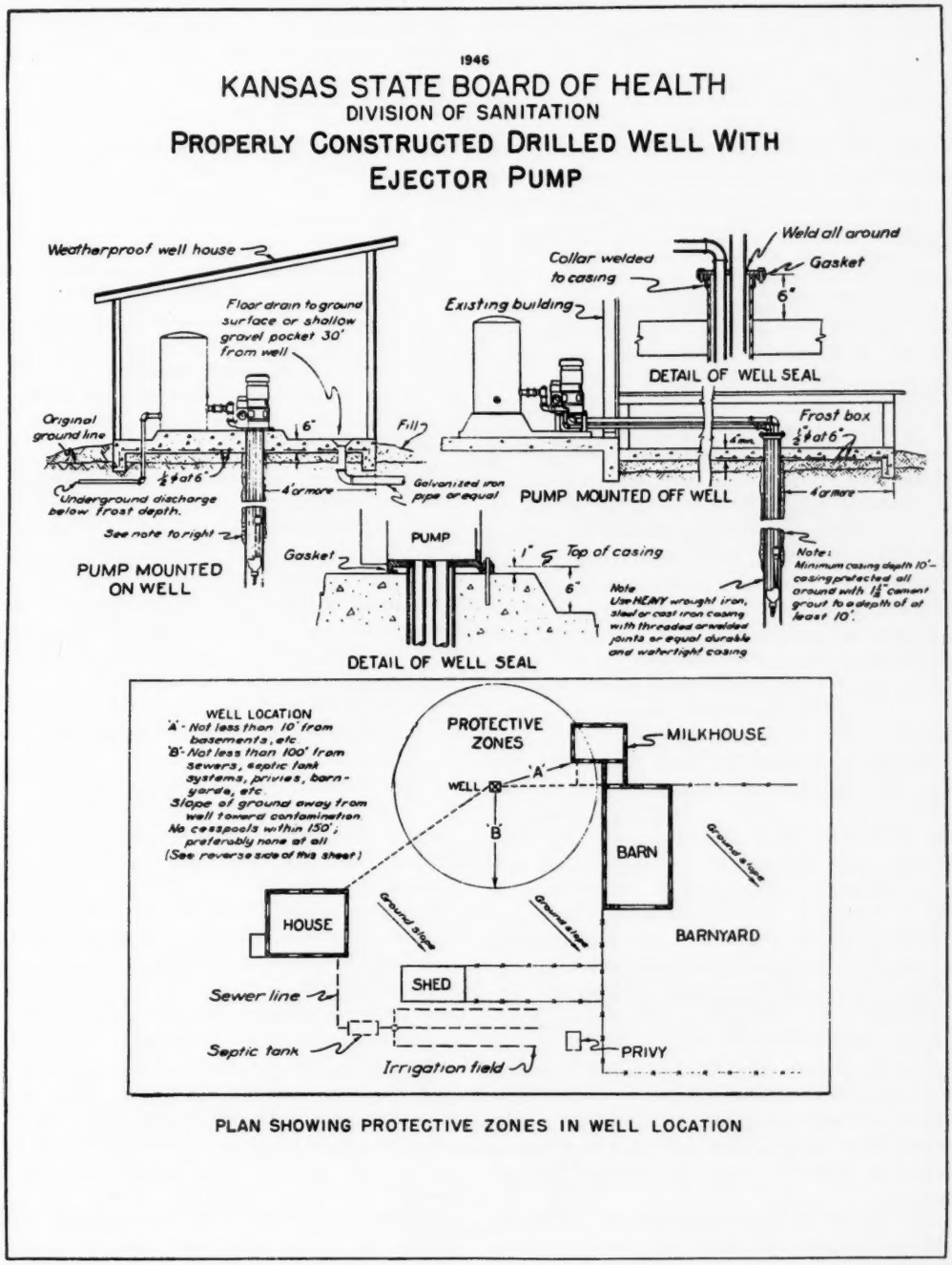
Some of the most dramatic stories in the author's experience deal with Kansas infants stricken with methemoglobinemia, sometimes called "blue-baby" disease or nitrate cyanosis. I recall twins from Garnett who were being rushed to a Kansas City hospital only to have the ambulance delayed by a switch engine; one of them died during the 20-minute wait. The other responded promptly to therapy upon reaching the hospital. Usually these attacks have occurred when an infant is moved from a hospital to a farm or in some cases when a somewhat older infant is moved from a city to a farm and placed on well water containing 20 mg/l or more of nitrate nitrogen. Our own pediatrician, Dr. Mary Boyden, who reported the first case in Kansas shortly after reading Dr. Hunter M. Comly's article in the fall of 1945, reported just a few days ago that she had

* Those desiring more complete information about the construction of wells can obtain a copy of Engineering Bulletin No. 22 from the Kansas State Board of Health.

Suspended Impurities	Bacteria			—some cause disease
	Algae, protozoa			—odor, color, turbidity
	Silt			—murkiness or turbidity
Dissolved Impurities	Salts	Calcium and Magnesium	bicarbonate	—alkalinity, hardness
			carbonate	—alkalinity, hardness
			sulfate	—hardness, laxative
			chloride	—hardness, corrosive to boilers
		Sodium	bicarbonate	—alkalinity, has softening effect
			carbonate	—alkalinity, has softening effect
			sulfate	—laxative
			fluoride	—mottled enamel of teeth over 1.5 mg/l
			chloride	—salty taste over 250 mg/l
	Nitrates			—infant cyanosis or blue baby disease
	Iron oxide			—taste, red water, staining
	Manganese			—black or brown water, staining

seen another case and, as frequently occurs, the family had moved from city to farm soon after the mother and baby came home from the hospital.

In an article published in the September 8, 1945 issue of the *Journal of the American Medical Association,* Dr. Comly demonstrated that infants ingesting high nitrate waters had substantial quantities of methemoglobinemia in their blood. The nitrates are


1946
KANSAS STATE BOARD OF HEALTH
DIVISION OF SANITATION
PROPERLY CONSTRUCTED DRILLED WELL WITH EJECTOR PUMP
Weatherproof well house
Floor drain to ground surface or shallow gravel pocket 30' from well
Original ground line
Fill
Underground discharge below frost depth.
See note to right
PUMP MOUNTED ON WELL
Collar welded to casing
Weld all around
Gasket
Existing building
DETAIL OF WELL SEAL
Frost box
Galvanized iron pipe or equal
PUMP MOUNTED OFF WELL
PUMP
Gasket
Top of casing
DETAIL OF WELL SEAL
Note: Use HEAVY wrought iron, steel or cast iron casing with threaded or welded joints or equal durable and watertight casing
Note: Minimum casing depth 10'- casing protected all around with 1½" cement grout to a depth of at least 10'.
WELL LOCATION
'A' - Not less than 10' from basements, etc.
'B' - Not less than 100' from sewers, septic tank systems, privies, barnyards, etc.
Slope of ground away from well toward contamination.
No cesspools within 150'; preferably none at all
(See reverse side of this sheet)
PROTECTIVE ZONES
WELL
'A'
'B'
MILKHOUSE
BARN
HOUSE
SHED
BARNYARD
Ground slope
Sewer line
Septic tank
Irrigation field
PRIVY

PLAN SHOWING PROTECTIVE ZONES IN WELL LOCATION

Figure 2

converted to nitrites by bacterial action in the intestine, are absorbed by the blood, and the hemoglobin is changed to methemoglobin by the nitrite. This causes it to lose its oxygen-absorbing properties and, as a result, methemoglobinemia occurs. The change of the hemoglobin to methemoglobin is oxidative, and the iron of the hemoglobin molecule is changed from the ferrous to the ferric state.

Although the exact source of nitrate in well water is not known, it probably comes from the bacterial decomposition of organic matter in the soil. The top soil in Kansas contains up to several tons of nitrates per acre. These are soluble and leach into the water supply, particularly, it appears, in shallow aquifers with a low water yield. This is borne out by the observation that 48.7 per cent of the dug wells covered in a study by the water laboratory contain more than 10 mg/l of nitrate nitrogen, while 20.8 per cent of the drilled wells exceeded this concentration. Driven wells were almost uniformly safe.

Since the nitrates cannot be removed, and in fact are concentrated by boiling, the only safe solution is to use a known low-nitrate source of water for infants. With only a few exceptions, water from all municipal supplies in Kansas is low in nitrates. The exceptions are Fall River, Irving, Lucas, Randall, Formoso, Kirwin, Luray, and Wilson.

Some studies now being carried on under a grant from the National Institutes of Health by chemists, engineers, and geologists of the University of Kansas, the State Board of Health, and the U. S. Geological Survey indicate that special well construction may seal out the high nitrate waters and permit pumping water of lower nitrate concentrations.

Sodium is an important water constituent, especially for persons having some of the common diseases of the heart, kidney, and liver. Patients with such diseases are unable to rid themselves of sodium, allowing large amounts of sodium-containing fluid to accumulate. If one assumes an average water intake of 2.5 liters, water containing 200 milligrams per liter allows the patient to receive 500 milligrams of sodium per day from water alone. This amount of sodium is not harmful to normal individuals.

Patients under restricted sodium therapy should not use water softened by zeolite. Zeolite softeners replace the calcium and magnesium ions by sodium in the ratio of 2 atoms of sodium for each atom of calcium or magnesium, thus increasing the sodium content of the water. About 240 mg/l of sodium as sodium is added for each 500 mg/l of hardness removed.

The natural salt deposits in Kansas and oil field brine pollute some well waters with sodium chloride. Chloride cannot be tasted at concentrations below 250 mg/l. At higher concentrations it imparts a salty taste which becomes unpleasant above 400-500 mg/l. It has no other health significance.

Iron and manganese occur in much of the ground water in Kansas. They have no health significance, but they do give water a bitter, unpleasant taste and a cloudy or rusty appearance. Dug wells high in iron may show a rainbow of colors on the surface as from a thin oil film.

Role of the Local Health Department

Nineteen counties in Kansas are served by full-time local health departments, and two of these, Sedgwick and Wyandotte, maintain laboratories for bacteriological analysis. Sanitarians, working under the direction of the health officer, survey private wells upon request and collect samples for analysis only if the well is protected against contamination. Except in Sedgwick and Wyandotte counties, these samples are mailed to the State Water Laboratory where the analyses are made and the results returned to the local health department.

The remaining 86 counties in Kansas have part-time local health officers who are in private practice. In general, these have no staff to survey wells and collect water samples, so persons wanting water tested often request the service directly from the State Board of Health. They are supplied a questionnaire to assist in describing the location and construction of the well and a sterile container. A charge of $2.00 per sample is made for the bacteriological analysis and interpretation of the results. Chemical determinations are also made by the laboratory where this information is needed.

When voluntary groups such as 4-H clubs carry out water supply improvement programs, they are urged to first make a sanitary survey of each well, checking for defects of location or construction. Engineering Bulletin No. 22 is used as a guide. Only after the recognized defects have been corrected and the well or cistern chlorinated, is testing for bacteria justified. Where local health departments assist with the program, including the collection of samples, no charge is made. In other cases the laboratory is required to make the charge.

In summary, 38 per cent of Kansas residents depend upon rural water supplies, so the problem posed by contaminated wells and cisterns is an important one. The ground water in Kansas is relatively hard and of safe bacterial quality as it occurs in the ground, but faulty construction allows many rural wells to be contaminated with fecal organisms. High nitrates and sodium pose health problems to special groups; fluoride-deficient waters occur over most of

the state although some western Kansas waters have the optimum amount. High sulfate waters in some areas are laxative, especially to persons not using them regularly. The other chemical components of Kansas waters have little health significance, although some affect taste and physical characteristics. Water samples are analyzed in the Water Laboratory of the Kansas State Board of Health, and bulletins showing recommended well construction can be obtained from the Board.

Kansas State Board of Health
State Office Building
Topeka, Kansas

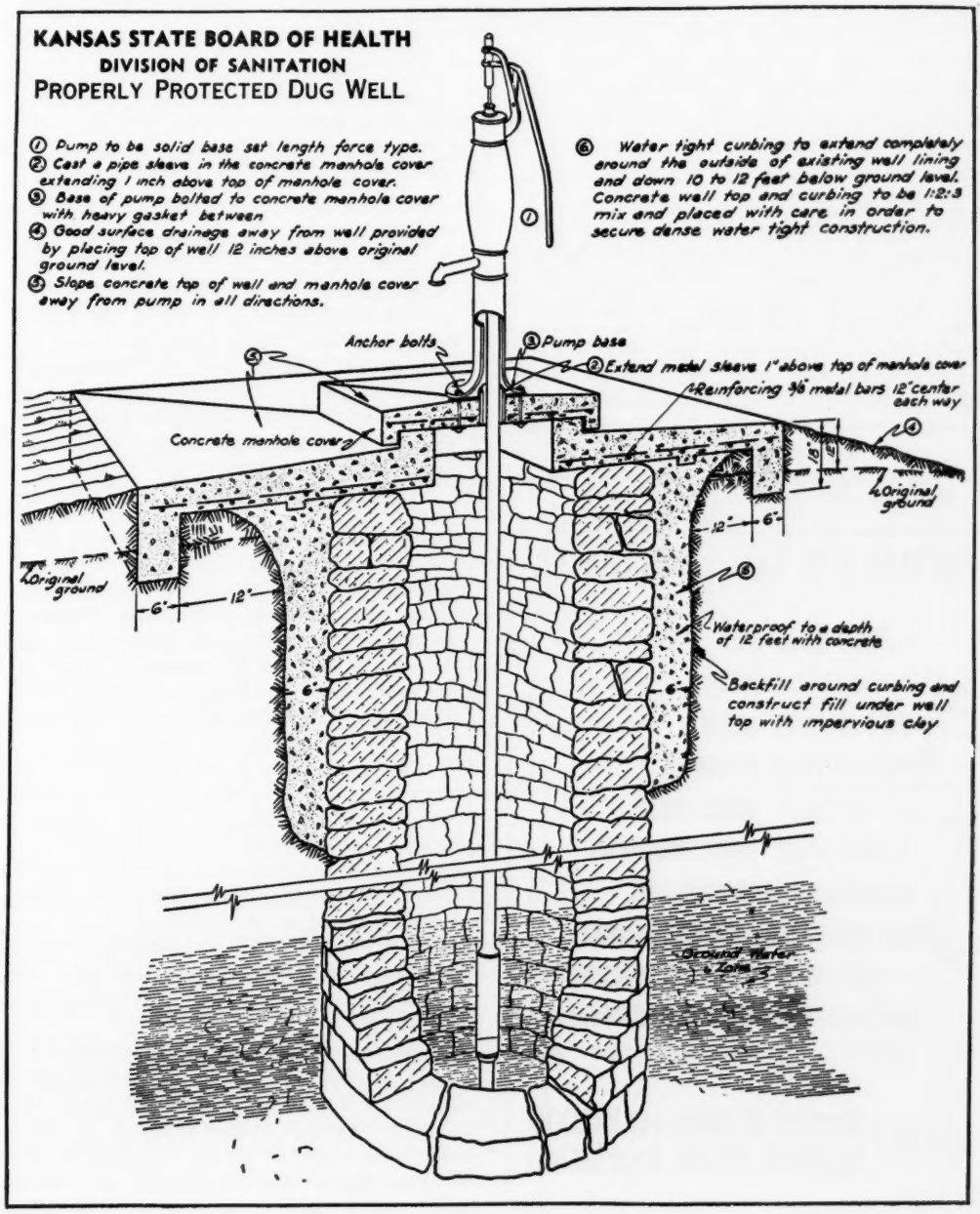

KANSAS STATE BOARD OF HEALTH
DIVISION OF SANITATION
PROPERLY PROTECTED DUG WELL
① Pump to be solid base set length force type.
② Cast a pipe sleeve in the concrete manhole cover extending 1 inch above top of manhole cover.
③ Base of pump bolted to concrete manhole cover with heavy gasket between
④ Good surface drainage away from well provided by placing top of well 12 inches above original ground level.
⑤ Slope concrete top of well and manhole cover away from pump in all directions.
⑥ Water tight curbing to extend completely around the outside of existing well lining and down 10 to 12 feet below ground level. Concrete wall top and curbing to be 1:2:3 mix and placed with care in order to secure dense water tight construction.
Anchor bolts
③ Pump base
② Extend metal sleeve 1" above top of manhole cover
Reinforcing ⅜" metal bars 12" center each way
Concrete manhole cover
④
18"
Original ground
12"
6"
Original ground
6"
12"
⑤
Waterproof to a depth of 12 feet with concrete
Backfill around curbing and construct fill under well top with impervious clay
6"
6"
Ground Water Zone

Figure 3

Skin Cancer

The Sun as a Carcinogenic Agent

H. C. BLAYLOCK, M.D.; J. V. VAN CLEVE, M.D.;
J. P. BERGER, M.D., *and* W. H. FRITZEMEIER, M.D., *Wichita*

Physicians see many paradoxes in medicine. Nature provides one of the greatest paradoxes of interest not only to the physician but also to the rancher and farmer. The sun is the life-giving blood of all things yet may be a Nemesis to many individuals.

That certain physical agents act as carcinogens has long been established.[1] The repeated contact of the skin with tars and petroleum oils, and inhalation or ingestion of arsenic compounds, are capable of producing skin cancer. These etiological agents are rare compared to the largest single factor—the sun—in predisposing to skin cancer. Although the actual cause of carcinoma of the skin is unknown, the prevalence of cancer on areas of the body exposed to the actinic rays of the sun, and the fact that 90 per cent of cancers of the skin occur on the face and dorsum of the hands, and, further, that skin cancer is much more common in the southern states than in northern latitudes, all tend to point to the actinic ray as a potent carcinogenic agent[2] (Figure 1).

The problem of weathering in the farmer and rancher is presented. The carcinogenic element of the sun is reviewed. The appearance of senile keratoses and their subsequent potential in regard to malignancy are discussed. Prophylactic measures are outlined as to prevention and treatment of weathering of the skin and senile keratoses which may eventuate.

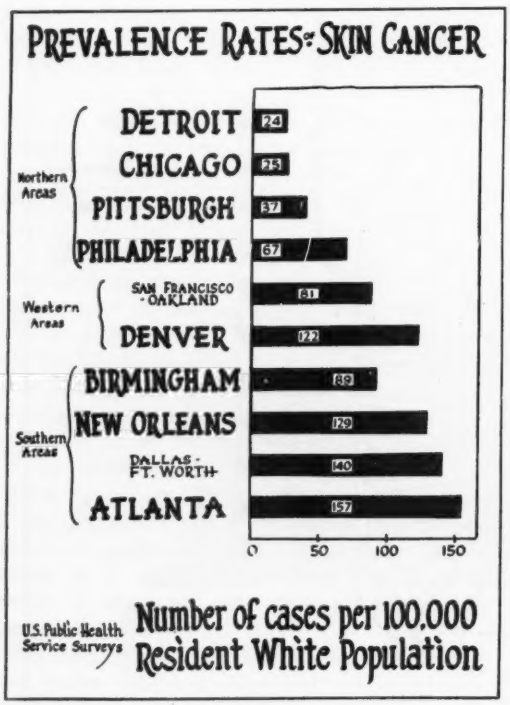


Figure 1

Experimental cancer of the skin of animals has been produced by Findley[3] by exposure to ultraviolet light (2500-3000 A. U.). Roffo,[4] of the Cancer Institute of Buenos Aires, found that in humans the more potent wave-lengths were from 1800 to 3400 A. U.; he also found an abnormally high content of cholesterol in the skin of these same individuals.

As to the mechanism of solar carcinogenesis, Mackie[5] concludes that collagen degeneration of the skin arises in persons with inadequate cutaneous pigment from excessive exposure to solar radiation. By altering the nutrition of the epidermis, collagen degeneration predisposes to the development of solar keratoses, kerato-acanthoma, squamous cell carcinoma, and basal cell carcinoma. When this degenerative process is present in a moderate degree, it can intensify and accelerate other carcinogenic influences. Mackie further implies that the carcinogenic effect of ultraviolet light is mediated by its primary action on the dermis.

Further studies reveal the blonde, blue-eyed, thin-skinned individual is a more likely candidate for malignant skin change.[6] Epitheliomas appear to be rare in the Negro. In addition to complexion and exposure to the actinic rays of the sun, time is an essential factor. The sun received last year, five years ago, or the sunburn received on a picnic is not enough stimulus to cause cancer.[7] More pertinent is the com-

bination of sun and wind received from repeated daily exposure over a period of years, producing a weathering effect, or so-called "Farmer's Skin." This weathering effect is seen also among sportsmen, the golfer, and the sun worshipper.

In the areas of weathering, on the face, back of the neck, and back of the hand, senile keratoses may develop. These keratotic lesions may appear in the twenties, but are seen more commonly in older age groups. The malignant change in these lesions is from 20 to 30 per cent.[1] Clinically, these lesions in the early stages are more easily felt than seen. As time progresses, senile keratoses become visibly evident as rough, non-painful, wart-like lesions with a reddish base. The lips, especially the lower lip, undergo a similar change with keratoses or leukoplakia. Senile keratoses should not be confused with seborrheic keratoses which are darker in color, usually smooth, with a greasy scale, and are found in oily areas of the temples, cheeks, scalp, and back.

Histologically, senile keratoses are difficult to differentiate from squamous cell carcinoma as evidenced by the term "squamous cell, grade one-half," in Lever's *Histopathology of the Skin.*[8] However, a biopsy is often indicated to determine whether or not squamous cell degeneration has occurred. Also, basal cell carcinoma is a frequent occurrence in these weathered individuals.

For those interested in preventive medicine, certainly this presents a great field to be explored. If these keratoses can be prevented or eradicated, an appreciative and healthy patient can be anticipated. Individuals with Nordic type complexions, chronically exposed to the sun, should be encouraged to protect themselves by the use of chemical sunscreens, protective clothing, broad-brimmed hats, umbrellas on tractors, and sun shields on cars. Periodic examination of patients with keratoses should be conducted.

The removal of precancerous keratotic lesions should be carried out by a procedure to prevent scarring. These individuals will, with time, develop new lesions. Therefore, cosmetically, one should seek to avoid scarring with the removal of each keratosis.

Borderline lesions will necessitate a biopsy and a resultant scar. The use of dry ice, liquid nitrogen, trichloracetic acid, and podophyllin is valuable in removal of keratoses without leaving a scar. Lesions which are more intense may require electro-surgery and curettage. Antibiotic salves, acting as an emollient and inhibiting secondary infection, have been found, by the author and associates, to be of value.

Once malignant change has appeared, as proven by biopsy, then routine removal should be accomplished by electro-surgery, surgical excision, or radiation. Routine pathologic examination of all suspicious lesions is a necessity to the practice of good medicine.

509 Brown Building
Wichita 2, Kansas

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It is all very well to say that foreign policy is far removed from the daily activities of the ordinary citizen, but it is true only to a limited extent. Our representatives abroad, being Americans, respond to the climate of opinion in America as surely as the rest of us do . . . which means that an uninformed or misinformed public opinion will gravely affect the operations of foreign policy in every corner of the earth.

—Theodore R. McKeldin

General Practice in Kansas

Study in Selected Communities of Less Than 3,000 Population

JESSE D. RISING, M.D., MAHLON DELP, M.D., *and* EDITH P. WEINBACH, B.J., *Kansas City*

As a producer of educational programs for physicians, this department of postgraduate medical education is vitally interested in the needs of both generalists and specialists. We need to know the basic and general as well as the unique and specific educational requirements of all of our actual and potential student body. Some educational demands are fundamental to medicine and involve only the standard policy toward subject material and sound techniques of presentation. We have, however, been concerned with the possibility that the general practitioner might need a variety of information and presentation quite different from that of other physicians. A search for information dealing with the daily activities of generalists yielded numerous opinions but few facts. It is obvious that no opinion is of particular value to us unless it is based on evidence which is valid in our own region of responsibility.

The faculty of the University of Kansas School of Medicine numbers among its members a group of rural preceptors who practice in communities of less than 3,000 population, and it occurred to us that, with the aid of these preceptors and their students, we could secure valuable information concerning the nature of their practices. It was understood from the onset of this survey that the preceptors would not necessarily be typical of the general practitioners of the region because they are a selected group of physicians who are interested enough in medical education to sacrifice both time and money to aid in the training of undergraduate medical students, and because all of them are located in rural communities.[2] The patient material and medical problems are, however, quite representative of rural Kansas, and, if the findings of an excellent analysis of medical practice in the state of Washington[1] can be applied to Kansas, we can assume that urban conditions do not differ fundamentally from rural ones.

Method

In our study the practice of each of 64 preceptors was surveyed by a student. Each student, or preceptee, used check-sheets on which to record information concerning 100 consecutive patient visits in each preceptor's practice. Patients were unselected, and each student was permitted a choice of time for the initiation of his study. Completed check-sheets reported the age and sex of each patient and whether the visit was the initial one or a revisit. Thirty-four diagnostic categories were listed including visits for immunization, well baby care, and routine examinations of well individuals. Students indicated on the sheet where the patient was seen, the type of treatment administered, any diagnostic laboratory work that was done, and whether consultation was obtained or the patient referred to another physician. These data were then tabulated on IBM cards which were used to get a composite picture of general practice in the rural communities of the state.

Results

Analysis of the 6,400 patient visits showed that diseases of the respiratory tract constitute a large share of the general practitioner's work (Table I). Upper respiratory affections accounted for 1,036 of the 1,215 patient visits recorded in this category as compared to 179 cases of involvement of the lower respiratory tract.

Approximately 10 per cent of the patient visits were for obstetrics, only 81 of the 657 patient visits

This study, based on data reported by rural preceptors and medical students in Kansas, was attempted to provide information on the type of postgraduate medical education that would be most beneficial to a general practitioner in a small community. Information gained from 100 consecutive patient visits to each of 64 physicians is tabulated according to diagnostic classes, age groups, sex distribution, place of performance of therapeutic measures, consultations and referrals, and laboratory utilization.

Department of Postgraduate Medical Education, University of Kansas School of Medicine.

TABLE I
SUMMARY OF DIAGNOSTIC CLASSES

	No. of Visits	*% of Total*	*% First Visit*	*% Re-Visit*
1. Respiratory	1,215	19.0	56	44
2. Obstetrical	657	10.3	14	85
3. Cardiovascular	608	9.5	20	80
4. Gastrointestinal	556	8.7	44	55
5. Musculoskeletal	510	8.0	33	65
6. Trauma	461	7.2	49	50
7. Dermatologic	360	5.6	44	54
8. Routine Examination and Well Baby	321	5.0	54	44
9. Gynecologic	287	4.5	31	68
10. Urologic	273	4.3	30	67
11. Emotional	273	4.3	23	74
12. Immunizations	169	2.6	43	57
13. Neurologic	162	2.5	21	77
14. Metabolic	122	1.9	14	85
15. Other	115	1.8	30	68
16. Ocular	97	1.5	62	37
17. Infectious Diseases	87	1.4	52	46
18. Hematologic	52	0.8	14	85
19. Malignant	41	0.6	17	81
20. Venereal	27	0.4	30	70
21. Parasitic	5	0.1	60	20
22. Deficiencies	1	0.02	0	100
23. Poisons	1	0.02	0	100
Total	6,400		37	61

were for obstetrical delivery, and 14 were for spontaneous abortion as compared to 465 prenatal and 97 post partum visits.

Other categories rank about as one might expect, and it is encouraging to note that five per cent of the visits were for routine examinations and well baby care. Immunizations were listed separately from the well baby examinations. In the former the doctor spent little time examining the child or talking with the parents, and he or an assistant simply administered the injection. It is disconcerting, but not surprising, to note how rarely adults present themselves for routine examinations and immunizations.

Over one-half of the patient visits for respiratory affections were first visits, whereas only about one-eighth of the obstetrical visits were in this category. A high percentage of the cardiovascular and musculoskeletal patients were revisits, and less than one-fourth of the patients with predominantly emotional problems were seeing the physician for the first time.

It is somewhat surprising, in the light of recent claims that a high percentage of the general practitioner's patients have primarily emotional disorders, to find that patients diagnosed as having predominantly emotional problems constitute only 4.3 per cent. In this respect it should be noted that the students did not classify peptic ulcer, hypertension, etc., in this group, but were instructed to include everything which, in their opinion, was primarily emotional. Students arrived at diagnostic classifications with the advice of their preceptors, but all students were at a stage in their undergraduate career preceded by rather full indoctrination in psychiatry.

Acute communicable diseases were included in the category of "infectious diseases." This category does not therefore reflect the importance of infections in these practices because respiratory, dermal, genitourinary infections, etc., were included in the appropriate categories.

An interesting feature stands out in the various diagnostic categories and the age distribution of patients as shown in Table II: 23 per cent of the patient visits were in the pediatric age group (under 15 years), and 24 per cent were in the geriatric age group (60 years and over). In other words, about half of the generalist's practice is in the areas of pediatrics and geriatrics, the extremes of life.

The practices under study were dominated by medical as compared to surgical and obstetrical patients (Table V). Naturally enough, the obstetrical visits were largely in the 14 to 40 age groups, and gynecological problems were most frequent in the 22- to 50-year-old patients.

Age trends in other diagnostic categories were about what one would expect. The majority of infectious diseases occurred in pediatric patients; the incidence of dermatologic and musculoskeletal problems and trauma was highest in the middle ranges of age; malignancies and neurologic disorders (largely Parkinsonism) were concentrated in the geriatric age group.

Aside from the obstetrical and gynecological cate-

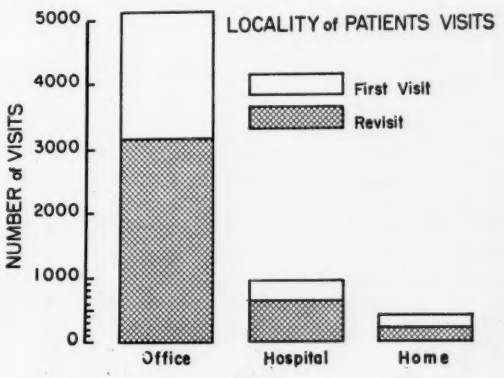

Figure 1

gories, only a few outstanding differences in sex distribution were noted (Table III). There was a distinctly higher incidence of visits by females for metabolic and emotional problems, whereas males more often sought assistance for trauma and eye trouble. In general, females accounted for a greater proportion of the physician's practice than did males, largely because of obstetric and gynecological problems.

The vast majority of patients, both first visits and revisits, were seen in the office (Figure 1). This is in contrast with our stereotype of the "horse and buggy doctor" who made numerous house calls. Modern facilities and transportation seem to have created an increasing centralization of practice about the physician's office. No significant trend could be seen in the number of first visits as compared to revisits in the office, home, or hospital.

The students listed the major therapeutic measures used in the treatment of each patient, but not necessarily the one employed on a particular visit. For example, if the patient had surgery in connection with the illness under consideration, this was indicated on the check-sheet. Obstetrical patients, on the other hand, were checked according to the procedure connected with the particular visit, i.e., prenatal examination, post partum visit, or obstetrical delivery. The category of minor surgery included only procedures which can ordinarily and safely be carried out in the office or in the home without general anesthesia and without highly skilled assistance—procedures which carry no expected mortality. All others were considered as major surgery, including the re-

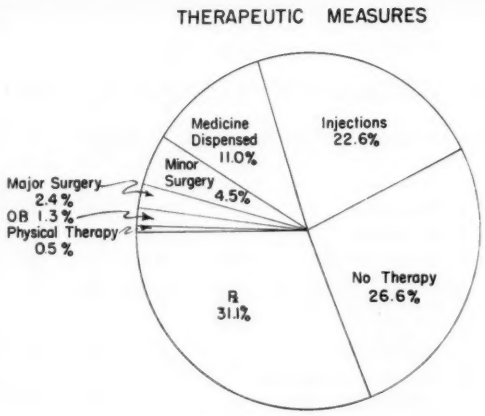

Figure 2

TABLE II
DIAGNOSTIC CLASSES BY AGE GROUPS

	Total	% *under 2*	% *2-4*	% *5-9*	% *10-14*	% *15-21*	% *22-29*	% *30's*	% *40's*	% *50's*	% *60's*	% *70's*	% *80's*
1. Respiratory	1,215	18	11	15	5	5	7	10	8	8	7	4	1
2. Cardiovascular	608	1	0	1	1	1	1	3	7	14	28	31	12
3. Gastrointestinal	556	8	4	5	3	4	8	13	13	13	11	10	6
4. Obstetrical	657	0	0	0	1	18	49	28	3	0	0	0	0
5. Gynecologic	287	0	0	0	1	9	21	30	20	10	3	4	0
6. Urologic	273	5	2	7	1	2	6	10	11	17	16	14	9
7. Venereal	27	0	0	0	0	11	37	15	15	11	0	11	0
8. Infectious Diseases	87	11	15	23	14	7	6	6	1	2	11	2	0
9. Parasitic	5	0	0	40	0	40	0	6	1	2	11	2	0
10. Dermatologic	360	7	3	6	7	11	8	15	13	11	9	7	3
11. Musculoskeletal	510	1	2	3	5	8	7	11	16	12	17	13	5
12. Metabolic	122	1	0	0	3	3	7	9	12	11	20	26	5
13. Deficiencies	1	0	0	0	0	0	0	0	0	0	0	0	0
14. Hematologic	52	6	2	2	2	2	4	10	10	19	17	19	4
15. Malignant	41	0	0	0	0	0	0	2	10	5	24	44	17
16. Ocular	97	3	4	8	7	8	8	22	14	9	8	2	5
17. Neurologic	162	2	0	3	3	5	4	7	11	13	20	17	12
18. Emotional	273	1	1	2	3	6	10	19	17	14	16	9	3
19. Trauma	461	4	7	9	10	13	10	11	11	9	5	5	4
20. Poisons	1	0	0	0	0	0	0	0	0	0	0	0	0
21. Routine Examination and Well Baby	321	52	3	2	5	14	6	4	5	4	2	2	0
22. Immunizations	169	36	10	15	2	3	3	6	8	5	9	3	0
23. Other	115	4	2	10	4	8	7	11	11	11	10	11	10
Total	6,400	9	4	6	4	8	12	13	10	9	11	9	4

TABLE III
SEX DISTRIBUTION IN DIAGNOSTIC CLASSIFICATIONS

	Total	% Female	% Male
1. Respiratory	1,215	48.1	51.9
2. Cardiovascular	608	54.6	45.4
3. Gastrointestinal	556	49.1	50.9
4. Obstetrical	657	100	
5. Gynecologic	287	100	
6. Urologic	273	45.4	54.6
7. Venereal	27	40.7	59.3
8. Infectious Diseases	87	47.1	52.9
9. Parasitic	5	40	60
10. Dermatologic	360	50	50
11. Musculoskeletal	510	54.9	44.9
12. Metabolic	122	79.5	20.5
13. Deficiencies	1	100	0
14. Hematologic	52	59.6	40.4
15. Malignant	41	46.3	53.7
16. Ocular	97	40.2	59.8
17. Neurologic	162	48.8	51.2
18. Emotional	273	75.1	24.9
19. Trauma	461	33.6	66.4
20. Poisons	1	0	100
21. Routine Examination and Well Baby	321	47.4	52.6
22. Immunizations	169	51.5	48.5
23. Other	115	57.4	42.6
Total	6,400	57.9	42.1

duction of fractures under anesthesia, tonsillectomies, hemorrhoidectomies, and the like.

Prescriptions and medications on hospital orders ranked first among therapeutic measures, as might be expected (Figure 2). The second largest group of patients received no specific treatment; this group included those seen for routine examinations, diagnostic work-ups, simple advice, and psychotherapy.

Only 81 obstetrical deliveries were reported as compared to 465 prenatal and 97 post partum visits, but even this represents only seven pre- and post partum visits per delivery. Over 90 per cent of the obstetrical deliveries were done in the hospital (Table IV). This illustrates the well known reversal of the situation of 30 or 40 years ago when most babies were delivered in the home.

Major surgery was the definitive treatment associated with only 2.4 per cent of the patient visits, in spite of the fact that many relatively minor procedures ("lesser major surgery") were included in our classification. Most major surgical procedures were performed in the hospital. Even in the category of minor surgery (which included mainly the suturing of lacerations, incision and drainage of furuncles, the removal of sebaceous cysts, and the like), over 20 per cent of the procedures were done in the hospital.

The largest proportion of patients referred to other physicians for definitive treatment came from the category of major surgery (Table V), and a fairly large percentage were referred even for minor surgery. Consultation was obtained in connection with 7.2 per cent of medical patients, and 2.8 per cent of them were referred to specialists.

The laboratory work tabulated indicates the frequency with which various diagnostic procedures were ordered (Table VI). This does not reflect the frequency with which these procedures were ordered on each patient, but rather the number of times they occurred in relation to the number of patient visits. A urinalysis or blood count obtained at an earlier visit or a subsequent one was not indicated in our data.

TABLE IV
PLACE OF PERFORMANCE OF THERAPEUTIC MEASURES

	Total	% Office	% Home	% Hospital
Prescriptions and Hospital Orders	1,995	84.4	7.1	8.5
Injections	1,444	68.0	9.2	12.8
Medicine Dispensed	702	94.0	6.0	0.0
Minor Surgery	288	76.4	2.1	21.5
Major Surgery	155	7.1	1.3	91.6
Obstetrical Delivery	81	3.7	2.5	93.8
Physiotherapy	31	100.0	0.0	0.0
No Therapy	1,704	81.2	4.0	14.8
Total	6,400	80.0	6.1	13.9

Discussion

Sweeping generalizations cannot be made from data obtained on a small scale, and even a large sample can lead to false conclusions unless all factors are closely examined. In an attempt to interpret the

TABLE V
CONSULTATIONS AND REFERRALS OF VARIOUS TYPES OF PATIENTS

Type of Patient	No. in Group	% Consultation	% Referral
Medical	3,141	7.2	2.8
Major Surgical	157	21.0	15.9
Minor Surgical	289	8.3	4.5
Obstetrical Deliveries	81	1.0	1.0
Obstetrical Visits	576	1.9	0.0

present survey, several important points must be kept in mind. The physicians surveyed constitute a selected group. For our purposes this poses no problem; the cross section of medical problems is representative, and the degree of sophistication of the physician would not alter our educational approach.

Above all, numbers alone do not necessarily constitute a valid criterion of the importance of any parameter. It is likely that many of the patient visits in some categories represent the more or less superficial attention of the physician to routine and often trivial problems, whereas some of the visits in the categories rating low in frequency may well represent problems that make severe demands on the knowledge, skill, patience, and time of the physician. The latter deserve greater emphasis in our postgraduate teaching. It has previously been demonstrated that the causes for patient's visiting physicians do not correlate with the causes of death.[1]

When these data are used to help in planning educational programs they must be carefully evaluated, but it is useful to have an idea of the frequency with which certain general types of problems are encountered and the environment in which they are met. It is implicit that increasing attention must be given to the diagnostic and therapeutic problems of everyday office practice, and that instruction relating exclusively to the problems of home diagnosis and treatment cannot justifiably receive a great deal of emphasis. The importance of medicine in the extremes of life, while often stressed, is well documented in this study, and it behooves educators to give full consideration to these phases of medicine when formulating their programs.

The question of minor surgery in general practice (as it is defined in this study) is not ordinarily a controversial one, and it appears that a significant proportion of the generalist's practice is and will continue to be in this field. Major surgery, on the other hand, is much more debatable. The data secured in this study demonstrate that general practitioners must continue to have adequate training in surgical diagnosis. How much major surgery, including "lesser major surgery," the generalist can and should do will continue to be a matter of disagreement, and these data do not help to resolve the question. It is interesting that the general practitioners involved in our survey choose to do little major surgery in spite of their geographic situation.

TABLE VI
LABORATORY SUMMARY

	Number	*% of 6,400*
Urinalysis	1,389	21.7
Blood Count	796	12.4
X-ray	372	5.8
Blood Chemistry	133	2.1
Electrocardiogram	92	1.4
Serology	45	0.7
Rh	14	*0.2
Gastric Analysis	8	0.1

* 17% of deliveries

Obstetrics constitutes an important part of the practices surveyed, and it appears that it will continue to do so because the small number of obstetrical deliveries suggests that the specialists would not find the specialty economically practical in communities of this size. Educational plans must be made accordingly. It is possible, in some instances, for patients to receive prenatal care from the local general practitioner, and then go to an obstetrician some miles distant for delivery, but present concepts of the best obstetrical practice dictate that the physician delivering the baby should supervise the prenatal and post partum care. In a large part of Kansas, at least, the general practitioner is the logical physician to do much of the obstetrics at present. He must, therefore, be adequately prepared to meet this responsibility, and must be given opportunities in postgraduate study to keep up with advances in this field. A little missionary work related to optimal prenatal and post partum care would also seem to be in order.

Potential weaknesses in the medical practices studied may point to the formulation of postgraduate programs that will improve everyday diagnostic and therapeutic measures, consultation and referral patterns, and the use of routine laboratory studies. One may not be justified in concluding that consultations and referrals are not used optimally, but even a superficial examination of the figures (Table VI) leads to the conclusion that diagnostic laboratory procedures could be used more often. For example, there were 608 cardiovascular patients (20 per cent being seen for the first time), and only 92 electrocardiograms were reported. Problems of health supervision and preventive medicine seem to need emphasis among physicians as well as the laity.

Our conviction has been strengthened that we must look to the building of programs of good medicine suitable for all physicians, the general practitioner as well as the specialist. The old concept of producing an elementary type program for the general practitioner must be discarded, and he must be given equal opportunities with the specialists to receive the same sound and scientific information in medical diagnosis and therapeutics.

Summary

A study of rural general practice in Kansas was conducted with the help of University of Kansas rural preceptors and medical students. One hundred consecutive cases from each of 64 preceptors, a total of 6,400 cases, constitute the basis of the study. Various diagnostic and therapeutic data are presented, together with information pertaining to sex, age distribution of patients, and location of practice.

The practices under study showed a predominance of medical over surgical and obstetrical patients, and about half of the visits were by patients in the pediatric and geriatric age groups. A great many visits were for upper respiratory infections. The bulk of the patients were seen in physicians' offices.

Information obtained in this survey concerning the occurrence of certain types of medical problems, the environment in which they are met, and how the doctor meets them, fortifies our opinion that general practitioners need the same high caliber of postgraduate medical education as the specialist. There can be no defense of the idea that general practitioners should be offered second-rate postgraduate programs, but medical educators must take into account the fundamental as well as the specific educational needs of the general practitioner. His professional activities are many and varied, and it is necessary to meet his diversified needs with fundamental information in the basic medical sciences, laboratory and bedside diagnosis, therapeutics, and preventive medicine.

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The medical profession has been shown repeatedly that it must recognize the present economic trends as powerful factors in the distribution of medical care. The general public has become deeply interested in health and welfare. The desire of the public to have prepayment medical protection of some type is so urgent that it will buy this protection from whichever plan seems most enticing. These plans may be union operated, have no free choice provision, and be in complete variance with medical society philosophy. . . . We cannot say that our only interest is in the care of the sick, that political and economic problems are not vital to our well-being and essential to the successful struggle against disease. Man has the same right to medical care as he has to food, clothing, and shelter. All these requirements are dependent on each other, but medical care offers more appeal as a target to those who are trying to improve man's welfare. . . .

No agent, organization, or bureaucracy can provide medical care. The doctor alone can provide it. The relations between the patient and his doctor must be confidential and privileged. The Blue Shield plans which protect this principle, were organized by doctors when commercial units said health insurance plans were not possible. . . . I believe that we should very seriously consider offering total coverage by service benefits to all persons. The increase in demand for health services might outweigh any economic loss. Whether you like it or not, prepayment medical care is here to stay. Let us support the most complete and efficient system possible—a system which is voluntary and over which we have adequate control.

Dr. Leo E. Gibson
New York State Journal of Medicine

Rural Health

Development and Success of the Kansas Plan

ALVIN S. McCOY, ***Kansas City, Missouri***

It has been said in jest that whoever coined the phrase "rural health" insured the success of the Kansas program for making modern medicine available to the sparsely-settled regions of the state.

The term impinges on the eardrums of farm members of the Legislature pleasantly. The support of the Kansas Farm Bureau, and farmer legislators, played a significant part in launching what is today a highly successful plan for providing doctors to the rural areas of a farm state.

The tag "rural health," of course, was supplied by Dr. Franklin D. Murphy, then dean of the University of Kansas School of Medicine, and now chancellor of the university. It was a phrase that stuck. A decade later Kansans still refer to a continuing program for supplying doctors to less-populated centers as their "rural health plan." They do so casually, as if unconscious of a miracle that has been wrought.

As one who observed the program at its onset ten years ago, I still recall the inspired enthusiasm of Dr. Murphy, a determined man, determined that the full import should penetrate even a newspaperman's thick skull. He applied all his skill as a super salesman to the project.

In essence the plan was simple. Dr. Haddon Peck, of St. Francis, then president of the Kansas Medical Society, and Dr. Murphy formed a team. They correctly diagnosed the patient's ills. The state was losing doctors. The one state medical school, producing 80 a year, was unable to keep up with attrition, deaths, and age. Some 70 rural communities were clamoring for doctors they couldn't get. There were not enough doctors, and the new crop was not going into the rural districts.

The prescription did not seem complicated. First, it was necessary to turn out more doctors. It takes more hospital beds to teach more students. Dr. Murphy determined it would require a state appropriation for new buildings of nearly 4 million dollars (added to federal funds) to step up the school's output to 120 doctors a year.

Next, how could young doctors be persuaded to go into rural communities and practice under a free choice system? Interviews with many determined that they feared two things, shortage of funds and "being medically isolated." To meet the first, Dr. Murphy exhorted, pleaded, and urged local communities to build clinics or hospitals, lease them to doctors, and advance funds for modern medical equipment. The second could be met by postgraduate courses, taking medicine on the road, with professors lecturing on medical advances in Kansas towns at regular intervals.

Dr. Murphy made countless speeches. Many recall that the 4-million-dollar appropriation bill sailed through the House of Representatives as if it were something sacred. The only negative vote was by an undertaker. The furor in Kansas attracted attention from doctors outside the state even before the larger classes could be produced. The first arrivals were given community dinners and celebrations.

Within a few years the trend was reversed. Kansas began producing more doctors than it was losing. Gaps in the rural sections slowly filled. In part, this may have been due to an increased emphasis on general practice at the medical school and student observers sent to watch rural doctors in action.

Today, ten years later, it is startling to learn that any county in the state is without a medical doctor, as may happen in the inevitable turnover. Kansas takes its rural health program for granted. Seldom does it occur to anyone that the state has been amazingly successful under free choice of supplying the best in medical care to its citizens.

The "grassy quadrangle," 200 by 400 miles, is dotted with hospitals, perhaps too many by some standards. Facilities are available for the practice of medicine as it should be practiced. The community still seeking a doctor is the exception.

Significant is the fact that communities which have one doctor now are seeking a second or a third. The cry of a child in the night no longer brings dread to the hearts of parents. For most of Kansas, modern medicine is close at hand.

EDITOR'S NOTE: Mr. McCoy, of the *Kansas City Star*, played an active role in "selling" the Kansas Plan at the time of its inception through a series of articles outlining the project.

Geriatrics

Old and Sick–Down on the Farm

E. GREY DIMOND, M.D., ***Kansas City***

Approximately two years ago, Dr. Barrett A. Nelson, then president of the Kansas Medical Society, asked me to be chairman of a new committee, the Gerontology Committee. A knowledgeable and sincere group of physicians accepted appointments on this committee.* More recently, Dr. Thomas P. Butcher, Dr. Nelson's successor, asked us to continue.

As a committee we have made a dogged effort to acquaint ourselves with the probable responsible areas of such a committee: nursing homes, insurance for older persons, visiting nurse programs, civic senior citizen centers, retirement versus past-65 employment, etc.

Now after two years, certain distinct impressions and facts have clarified themselves. This article is perhaps a progress report on the education and maturation of a Gerontology Committee. More specifically, it reflects my own personal interpretation of America's unique social position: So successful has been the American social scheme, that it has made possible for us to create an entire new class of people . . . people who, since the beginning of time, existed in such minor numbers that their presence was one of honor, yet who, in our culture, have survived in proportions far beyond our anticipation. I say "far beyond our anticipation" because as this new strata of society appeared, other evolutions steadily eliminated a role or place for the older citizen.

The American is migratory. A son does not remain at home. In fact, he neither remains at home, or on the same farm, or in the same town, or state. The characteristic American family unit is not one which provides a position for father and mother. Instead, the children marry, establish totally individual homes, with no emotional or physical provision made for the "folks." When old age does come, the children may "pass Mom around among them," or "chip in" to keep her in an "old folks' home," or, if chance provides, place Mom and an unmarried sister together. Mom and Dad may be loved, respected, and supported—but it is the rare American home which has the capacity to shelter them, physically, financially, or spiritually.

This American dilemma, a society which is based on youth and change and growth, but a society which has brought an immense percentage of its citizens through the dangers of childbirth, childhood infections, starvation, tuberculosis, diabetes, pneumonia, etc., etc., etc., on to old age, finds its problem compounded by its wage earning habits. Men past 65 are simply not wanted in industry. Government attempts at buffering by old age allotments have eased but not solved the problems of day to day living for this group.

With one-eighth of our population now beyond the age of 65, Medicine is becoming increasingly aware of its responsibility to our senior citizens. Plans must be evolved to provide adequate medical care in a way that will preserve the dignity of the individual. In Kansas this problem is being studied by a Committee on Gerontology.

It is when this group of "old folks" becomes ill that the issue clearly becomes one in which organized medicine must be involved—in fact more than involved, it must take active leadership, and insist in having a voice and a leading role. If the physical well being of an immense segment of our population is suffering from lack of adequate lodging, nursing, hospital care, and even medical care, then this is Medicine's challenge.

Solution by effecting a social revolution and recreating the American's home life into a stable, patriarchal mold is improbable—and perhaps not a solution which organized medicine can identify as its responsibility. Solutions utilized by other West-

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Dr. Dimond, professor of medicine at the University of Kansas School of Medicine, prepared this study at the request of the Editorial Board after his return from a national conference on geriatrics.

* Gerontology Committee Members: Dr. J. O. Austin, Garden City; Dr. L. J. Beyer, Lyons; Dr. J. M. Catlett, Emporia; Dr. T. Dechairo, Westmoreland; Dr. D. M. Diefendorf, Waterville; Dr. F. E. Dillenbeck, El Dorado; Dr. G. M. Edmonds, Horton; Dr. H. A. Flanders, Hays; Dr. V. L. Jackson, Altamont; Dr. Ronald McCoy, Coldwater; Dr. J. J. Marchbanks, Oakley; Dr. R. F. Morton, Arkansas City; Dr. T. V. Oltman, Riley; Dr. J. W. Parker, Burlington; Dr. D. V. Preheim, Newton; Dr. E. S. Rich, Newton; Dr. D. L. Rose, Kansas City; Dr. H. L. Songer, Lincoln; Dr. C. E. Stevenson, Neodesha; Dr. G. A. Surface, Ellis.

ern civilizations, based on "cradle to the grave" security, have a repugnant flavor for the free-wheeling, free-enterprise American, layman and physician alike.

The rural states have no less a problem than the cities. Traditionally, the farm family has represented the last example of the strong family unit. As a man aged, he simply transferred his farm responsibility to his children. No arbitrary or forced retirement cut into life's course. The aging parents either remained on the farm, or moved into the neighboring town, secure in their role of advisors and grandparents. This course of events continues in a significant percentage of farm homes, but the movement of children from the farm has also occurred in a greater percentage. The farm becomes a burden of responsibility which the old couple cannot alone physically maintain nor can they enlist sufficient help from children or hired help. The farm becomes a trap.

The changing quality of medical care has further complicated the lot of the aging farmer. The small office of a dispensing physician with one or two rooms for handling his "minor surgery" has been modified into an expensive community complex of physician, nurse, pharmacist, and hospital complete with x-ray and laboratory facilities. To enjoy the blessings of old age, one usually must anticipate an increasing need for medical care. This medical care, because it has become better, more precise, and exquisite, has become tellingly expensive. The farmer will recall the nostalgic days of the "family doctor," offering everything he had from his black bag. Little wonder that the farmer may wonder why this same family doctor today cannot function safely without x-rays, blood tests, and antibiotics. Good medical care costs money. There is no short cut. The methods of diagnosis, the medicines, the hospital bed are all expensive treasures which the aging farmer must have available.

Rural life offers, intrinsic in itself, many of the values sought in cities by "elder gardens," "day centers," "recreation centers." Arbitrary "old age" is not declared by an employer. Issues of seniority are not raised by a union.

As one analyzes the problems of health in rural areas, specifically as they relate to the elderly, it is apparent that the characteristic strength of the farm family does offer a buffer which is lacking in urban areas. However, this is a decreasing buffer. The problems of being old, rural or urban, are significantly similar. Allowing for differences in population density, differences in mobility, differences in family ties, absence of management and union, the problems of being old and sick down on the farm are not different from being old and sick in the city. Hospital beds, nursing care, rehabilitation services, x-rays, laboratories, blood banks, medicines, and doctors are needed.

One's initial response might be that this problem needs detailed study and analysis, that review committees, committees on aging, committees on the aged in industry, committees on retirement programs, committees to survey the literature, committees to collect and collate the literature, etc., should be formed. If there is one single fact which I have gained in these last two years, it is this: sufficient studies in depth have already been done. Immense data are available. All evidence, no matter how obtained, confirms a simple, readily apparent issue: America has an increasing group of citizens past 65, who are not readily employed, cannot obtain adequate insurance, cannot afford nursing home and hospital care (or if they can afford it, cannot find a dependable facility), and for whom our society does not provide proper security, incentive, or status. A thousand more studies will not change these facts. The time is here, now, when organized medicine must vigorously enter into this area, and with clarity and honesty, bring together government, insurance companies, state regulatory groups, and significant foundations and spell out the areas which need action:

1. Suitable physical facilities (chronic disease centers, day centers, nursing care facilities, etc.).

2. Satisfactory insurance coverage so a man can, with pride and dignity, pay his own way.

3. Realistic attitudes about retirement, so a man can work until the day he drops. Our society is not so rich that we can afford to isolate one-eighth of our population on a park bench in the sun. A man may slow down at a certain age but he still creates, plans, and builds. To take away this opportunity is to create disease.

My point is this. Our role in medicine is to prevent sickness and to maintain health. We are finding ourselves in a position where a shockingly large percentage of the people who make up our practice cannot find a reasonable way to occupy their minds and hands. When sickness comes, they can neither afford hospital care nor find it.

These problems then become our responsibility. We must insist on solutions. Where solutions are slow in coming or contrary to what we believe best, we must provide the ideas.

The best possible care is *not* being provided for a segment of our population.

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Rural Practice

The Appeal of a Small Community to a Physician

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I feel highly honored to be asked to write this article for the JOURNAL, although my story will not differ materially from that of many of my friends who have located in small rural communities.

One's personality determines to a large extent which branch of medicine he will pursue, and to some of us complete satisfaction could not be found in a large city associated with a clinic, a health service, or in any other impersonal type of medical practice. The type of patient you will see will differ little whether you do general practice in a large or a small town. The Department of Postgraduate Medical Education of the University of Kansas School of Medicine proved this by a survey of patients for one month in the offices of the preceptors of the medical school. They divided all patients into about 16 categories of medicine and surgery, and all were well represented in my office. It simply boils down to the question, "Where do you want to live?"

In a rural community you live close to your patient. You are aware of his problems and worries, his background and environment. More often than not your patient is the man you see on the street every day or the woman who worships in the next pew on Sunday morning. This relationship has obvious advantages, for the patient as well as his doctor. The patient tends to be relaxed and give a more honest history, the doctor is in a better position to render maximum service. You're in that warm, friendly relationship with your patient that Dr. Harvey Cushing said, "may often yield information more valuable to the physician than anything revealed by a laboratory test."

In a country practice your patients are truly "patient." Not only do they respect my desire to attend medical meetings and classes at the university but they realize I need time for religious and recreational activity. Unless their needs are truly on an emergency basis, they will await my return, and there is no feeling of resentment for my having been gone. I've been a member of the local Kiwanis Club with perfect attendance over the past five years. I teach a men's Sunday School class and seldom miss the morning worship service. I attend our high school athletic contests and take part in most community activities. In fact, in a small town such as ours, everybody goes to everything and actively participates. I inject this paragraph for those who feel the country doctor is overworked and not allowed to live a life of his own.

One of the criticisms I've often heard of country practice is the matter of distances. Actually, this is no problem at all with good roads and modern cars. There is no traffic in the country and nothing to obstruct driving as there is in the city. I enjoy the long country house calls which allow me time for relaxation and meditation. I still get a thrill out of driving home from the hospital just at daybreak and watching the world come alive to the new day. Two of my colleagues in this county keep fishing rods or shotguns in their cars, depending on the season, and find much pleasure in getting up early and enjoying their hobbies before hospital rounds.

I am fortunate in being less than an hour's drive from Kansas City or Topeka and but 20 minutes from Lawrence. This allows the family all the facilities of the larger cities without having to live there and put up with the traffic, noise, and the many other objectionable features of a metropolitan area.

A small rural community is a wholesome environment in which to raise a family. Our four girls live a happy life roaming at will over the town and surrounding countryside. They are unrestricted by big city ordinances and have raised all kinds of animals as pets. In a school system with a small enrollment they have the opportunity to participate in all activities. Their happy childhood should help us raise our children to normal adulthood. My wife likes the advantages of the country community too. People are more friendly and helpful, and I feel our lives have been much fuller since we came here.

If you like people and have a sincere desire for service, if you're not afraid of work, and sometimes it goes on for long stretches, if you won't resent being called "Doc" and realize it is more a term of endearment than disrespect, if it is real living that you want—then you'll find it in a country practice.

Making Agriculture Safe

An Analysis of the Problem and Its Solution

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One sure thing about tomorrow's agriculture is that it must be safer than in the past. With other industries proving that accidents can be prevented, agriculture no longer can tolerate a safety record that is one of the poorest among all occupations. But as we anticipate hopefully agriculture's improved safety record, we must remember that its price is eternal vigilance plus effective education. That basic philosophy underlies the efforts and plans that are being made by farm safety groups everywhere to reduce the toll that accidents take among rural residents.

In spite of improvements in recent years, agriculture is staggering under a terrific load resulting from needless accidents. Mishaps to farmers cause enough lost time in a year to produce more than half the average annual wheat crop in the United States. Even more serious is the economic loss to farm people of nearly a billion dollars per year resulting from accidents of all kinds.

But the losses in time and money are only a part of the burden resulting from accidents to farm residents. There are approximately 12,000 accidental deaths annually. Another 1,000,000 rural residents are injured, and many of the victims are permanently crippled. They lose hands, arms, legs, and eyes—thus the accident bill for any one year will continue for many years in the future in the form of reduced productive capacity and in personal sorrow and handicap.

Of these 12,000 fatal accidents to farm residents each year, more than one-fourth occur in farm homes. Falls head the list of home fatalities—falls due principally to insecure footing and poor visibility. Next come burns which result most often from misuse of petroleum products or from improper wiring. Many other fatalities result from poisons, mechanical suffocation, firearms, and drowning.

Farm work fatalities number about 3,500. Farm machinery is associated with a large proportion of these fatal accidents because many farm workers persist in improper operation of such equipment. Many farmers meet death from tractors which tip over and from motor vehicles that are involved in farm work accidents.

Motor vehicles not associated with farm work take the lives of more than 5,000 rural people. Careless driving, or course, is the principal factor involved, but the country dweller is faced also by two particular hazards—the blind farm driveway and the lack of sidewalks for pedestrians. Farm people are not average when it comes to exposure to the possibility of severe motor vehicle accidents; they are subjected to hazards considerably above those of others. Farmers have to literally sneak onto high speed highways from secondary roads or from farm driveways. Furthermore, by the very nature of their living, farmers are required to make greater and more varied use of the highways. Not only do they transport themselves from place to place but they also use roadways for moving their products and their equipment.

Then there are the so-called public accidents other than motor vehicle such as hunting, boating, and swimming which account for nearly 1,000 deaths annually among farm families.

Farm fires also take the high toll of nearly 800 deaths per year with a monetary loss of more than $150,000,000.

All this leads to the simple question, "How long will we calmly permit accidents to take such a tremendous toll of lives and property among people engaged in agriculture, not to mention the suffering and other costs involved?" This question becomes even more poignant when it is realized that something *can* be done about it. Those who brush the question off lightly display either an ignorance of the problem or a callousness difficult to understand. The crux of the matter is this: agriculture is far behind most other groups in safety endeavors. Only relatively recently has a beginning been made to reduce farm accidents. If safety education and methods had been applied as intensively on American farms as manufacturers have applied them, the lives of nearly 2,000 farmers might have been saved last year.

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Any worthwhile achievement usually is accomplished only by careful planning, taking into consideration all of the factors involved in the situation. What are some of the factors that concern safety in agriculture?

First of all is the multiple exposure to hazards. The farmer engages in a wide variety of operations so that he does not develop the high degree of proficiency that is acquired by the man on the factory production line who performs the same operation day in and day out, year in and year out. The farmer literally is a jack of all trades doing many different jobs and using many different machines in a single day.

A second factor is uncontrolled power. Today agricultural production is dependent upon the use of vast amounts of power, in units varying from a fractional horsepower motor on his drill press to hundreds of horsepower on his heavy equipment. The control of this wide range of power, under a wide range of situations, is dependent upon the knowledge, training, and skill of the farm operator. Too often the acquisition of such knowledge and skills is left to a haphazard manner.

A third factor as implied above is lack of training. We are all aware of the unwisdom and shortcomings of learning to operate high speed and high powered equipment in a haphazard manner. But the facts are that many of our agricultural workers still learn that way. They learn from others—bad habits as well as good. They learn by experience, and of course experience can be a good teacher, but "You'd better learn from the mistakes of other people—you won't live long enough to make them all yourself." Yes, experience is a good teacher only if you are lucky enough to live through acquiring it.

A fourth factor is lack of supervision. Here we get one of the widest deviations from the safety problems of other industries. We frequently hear large industries complain because small industries are not doing a good safety job, and as a result the smaller industries keep the total industrial accident rate higher than it would be otherwise. It appears many times that the smaller the unit within an industry the greater the problem of safety. Well, agriculture is made up of many relatively small units so that the job of motivation, training, and supervision is a different one from that found in most other industries. There are no safety supervisors in agriculture, and that is why it is so tremendously important to emphasize education in accomplishing accident prevention for rural people.

A fifth factor is the lack of safety promotion, a lack of safety consciousness. The history of safety in industry goes back more than 40 years, but it was not until 1944 that agriculture began to receive much attention. During that year a National Farm Safety Committee was set up in the National Safety Council, and attention began to be focused on the farm accident problem. So it is readily recognized that the history of organized safety work in industry goes back more than 40 years, but it is only in the last 15 years that farm safety has received similar attention.

What can be done to overcome the difficulties that exist in preventing accidents in agriculture? These difficulties are not insurmountable. When we think of safety we often think in terms of the three E's—Enforcement, Engineering, and Education.

When we apply these to agriculture we realize that because of the nature of the farm unit there is comparatively little opportunity for enforcement. There have been those who have felt that the best way to prevent farm accidents is to "pass a law." Many have been sincere in this belief, while others appear to be motivated largely by the possibility of personal profit through legislation. Guards for farm machinery can be provided, safe methods for handling livestock can be developed, and safety devices for the home can be offered, but their general use will not be secured through compulsion or legislation. As the farm safety program develops, some legislation may prove desirable, but ordinarily this should relate to such methods or devices as have been thoroughly tested and proved. Public opinion will then support legislation for both manufacturers and users who lag behind.

Engineering has played an important part in agriculture and will continue to play an increasingly important part, not only for the further development of agriculture but for the reduction of accidents among rural people. Equipment manufacturers are continually studying their products and bringing about improvements which reduce hazards in the operation of machines. The basic approach to improved engineering is research. It is obvious that safety research in agriculture must take on an accelerated pace. But to get the farmer to make use of the engineering safeguards and avail himself of better safety devices generally is largely an educational problem.

Thus we come to the third E, education, on which rests the major progress toward safety for the farm family. Safety education will require farm leaders—men and women who are willing to become rural safety engineers in a very real way without undergoing any type of formal safety education. Being alert to farm hazards, urging carefulness in place of carelessness, being an evangelist for safety every day, and

giving support to adequate safety organization—all these will ultimately produce safety consciousness on the part of farm people that will accomplish great results.

In this matter of effective safety education a well defined and successful pattern has been developed, namely the farm safety committee. Forty-two states are now definitely organized with farm safety committees composed of representatives of the major agricultural organizations and agencies within the state. These include representation from the State Grange, State Farm Bureau, Farmers Union, Agricultural Extension Service, College of Agriculture, State Department of Vocational Agriculture, farm equipment people, electric companies, rural women's organizations, young people's groups, and many others. These state farm safety committees have the responsibility of speaking for agriculture in safety matters. They devise plans and programs whereby farm people can do the safety job for themselves and at the same time play a part in the over-all safety movement of the country.

The state farm safety committee does several things such as:

1. Stimulate interest and activity on the part of the cooperating groups so that each of these groups will do the best safety educational job with its own people and through its own channels.

2. Plan and correlate the over-all farm safety program and unify it into one effective statewide program.

3. Represent a strong force to bring about increased or more adequate consideration for the safety needs of agriculture. The committee can take the lead in securing adequate paid leadership to head the safety movement within a state.

Under the leadership of the Farm Division of the National Safety Council, the 42 states now having state farm safety committees constitute a tremendous force for reduction of the toll that accidents take among rural people. The usual experience is that sooner or later after a state committee becomes activated, its members find need for a full time person to carry on the programs outlined by the committee. Fifteen states now employ state farm safety specialists who give their time to the leadership and coordination of safety efforts for agriculture. The time is at hand when many more states should have such a specialist.

A well planned program of farm safety includes many phases such as better statistical information, research and development of better techniques in doing farm jobs, and stimulating cooperation from many organizations and agencies. Bringing about an adequate degree of safety consciousness requires persistent educational and inspirational effort.

Therein lies the duty and the opportunity of the farm safety specialist. To provide a better understanding, a unifying influence, and an inspiring leadership is the great mission of such a job. Such leadership is bringing a steady decline in the unnecessary toll that accidents take in agriculture.

The next important unit in farm safety is the county farm safety committee. It is where farm people live and work that the job must be done if lives are to be saved and crippling injuries prevented. It matters not how good a program may be developed at the state or national levels, if it is not operative at the county level. The county committee under the guidance and leadership of a state specialist and the county extension agent can take over in putting these programs into operation.

What are the specific jobs for the immediate future? First of all we must know the situation better than it is now known. There is need for establishment of an accident reporting system that will compare somewhat favorably with the present crop reporting system now operative in agriculture. Families should keep a record of accidents on their farms. It may surprise them to discover that certain members of the family are experiencing more accidents than others, or that certain spots in the farmstead or certain pieces of equipment are involved in accidents more than others. It will be at those points or with such equipment or members of the family that safety education needs emphasizing.

The same sort of record should be kept for the community and for the county. In all probability it would be discovered that a certain point on the highway is involved in a lot of accidents or that farm driveways or field entrances are having more than their share of mishaps. Such knowledge would enable the county or community safety committee to develop an effective program to eliminate those hazards.

But our educational program cannot wait for the development of an accident reporting system, important as that is. There are certain fields of safety that need to be emphasized immediately. Each year, with the help of state farm safety specialists, two areas of safety education are selected for emphasis. For 1959 these include "Safety with the Tractor" and "Electrical Safety." Assistance is being given to the farm family, to the community, and the county to develop safety educational programs in 1959 that will emphasize the importance of the safe use of tractors and safe handling of electricity. Of course other areas of safety are included as well. Materials are available from the Farm Division of the National Safety Council to assist in the two special areas selected and also in other areas that require attention.

There are three major steps to be taken to accomplish this great educational program for safety and

agriculture. The first of these is to learn the hazards, and for this purpose farm safety check lists and hazard hunts are used both by young people and adults to discover dangers that lurk around the farm and in farm work.

The second point is a positive program to eliminate all those hazards that can be eliminated. Industry has discovered that it is worth any amount of expense and time to provide the safest possible conditions for its workers. Agriculture must come to the same realization.

The third point is to learn to live with those hazards that cannot be eliminated. Such knowledge in itself often practically eliminates the hazard. For example the corn picker, which is inherently a dangerous machine, can be operated safely if the operator will follow the instructions that come with the machine. In other words, the operator can learn to live safely with these hazards.

The coordinated effort of various groups in agriculture or those related thereto in attacking this problem cannot be over emphasized, but in the final analysis farming is a family proposition. It is important, therefore, that all members of the farm family be made safety conscious. This includes recognition of the danger spots around the farm, knowledge of what constitutes major hazards, an awareness of dangerous practices in handling machinery and livestock, plans for safeguarding children, consideration for risks in use of electricity, efficiency in fire prevention, up-to-date first aid knowledge, and a host of other items. But more than that the farm family must participate in the organized program for the community, the county, and the state. Farm safety organizations must promote programs for young people's groups, for women's organizations as well as for farmers themselves, and they must provide materials to assist in carrying out such programs. Awards and recognitions must be provided for those doing the best job.

There is no doubt that some farm people are alive today, some are not crippled today, because of what has already been done in farm safety. But it is equally true that many farm people are dead and many more are crippled because of what has not yet been done. Agriculture must tackle its own safety problem just as industry has done. Whose job is it? It's the job of everyone worthy of the title of leader.

The issues are so vital and the results so greatly to be desired that it is hoped that agricultural leaders everywhere and others who are related to agriculture and interested in its welfare will enlist in this important educational effort.

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It takes *physical power* to run our industries, operate our farms, create products of commerce, to fashion weapons of defense and offense.

It takes *brain power* to create and control the forms and substance of our economic, political and social existence.

It takes the *power of ideas* to determine and establish our collective ideas and ideals, our dreams, visions and goals for the future.

These are the structures of power which we must build today to determine our existence tomorrow. Whether their foundations are shallow, shifting and fragile, or solid and deep, depends almost completely on the character of our research effort, both basic and applied.

Jesse E. Hobson
Vice President and Director of Research
United Fruit Company

Food for Thought

The Relationship of Nutrition to the Practice of Medicine

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The recognition, diagnosis, management, and prophylaxis of nutritional imbalance as related to disease in a rural population is a problem of large magnitude and numerous facets. The rural physician, often a general practitioner, may well have difficulty in keeping abreast of the developments in a field as specialized as human medicine, as it derives from the basic sciences; i.e., biochemistry, physiology, and nutrition. Yet in a day when a large part of disease is chemical rather than bacterial in origin, it becomes increasingly important that the physician strive to keep informed on developments in the field of nutrition. Spies[1] expresses the belief that our chief medical adversary is "a disturbance of the inner balance of the constituents of our tissues, which are built from and maintained by necessary chemicals in the air we breathe, the water we drink, and the food we eat."

The nutrients essential for man appear to have been largely delineated, but their specific functions and interactions in body metabolism are areas in which there is comparatively little knowledge. There is much to be done in learning how quantitative changes in nutrient intake affect the biochemical balance of an organism and produce the clinical and pathological changes of human deficiency disease states.[2]

Voluminous data are available on the deficiency disease syndromes, and these have been described in detail in medical literature. Since the late 1930's, however, the physician in this country seldom sees frank deficiency disease states—such as pellagra, rickets, or beriberi—which were prominent until that time. Although the classical manifestations of deficiency disease syndromes are on the decrease, it should be remembered that "malnutrition is like an iceberg; its greatest mass and its greatest danger lie beneath the surface."[3]

Studies[4] made by the United States Department of Agriculture in the spring of 1955 have shown that the average amounts of food brought into household kitchens were sufficient in all regions of the United States to provide more than the recommended dietary allowances of the National Research Council's Food and Nutrition Board for calories and eight nutrients. Emphasis should be placed on the fact that the reference is made to the food purchased by the average family. Scrutinization of the calculated values for each household showed that many families had food supplies that did not meet the recommended allowances. The greatest inadequacies in family consumption were found for calcium and ascorbic acid, respectively 29 and 25 per cent. From 15 to 20 per cent of households had diets below recommended levels in vitamin A, thiamine, and riboflavin.

As compared with a large-scale study made in 1936 in which one-third of the families in this country had diets which were classed as "poor," the 1955 study judged by the same standard employed in 1936 would probably not have rated more than one-tenth of our population as having "poor" diets.[5] This is a gratifying improvement. However, the figures show that, except for protein and ascorbic acid, there is little difference in the adequacy of diets consumed by families in the top third of the income scale as compared with all families. This indicates that people in the upper income level either do not have sufficient nutritional knowledge or do not apply the knowledge they have.

The physician practicing in an area in which he may enjoy a close relationship with the families under his care has the advantage of being familiar with familial idiosyncracies, a valuable tool in the practice of medicine. The dietary background of the family should be a part of its medical record, as knowledge of the eating habits of family members coming under the physician's care may prove valuable in preventing and treating future complications due to nutritional imbalance.

There are many instances in which a physician aware of the habits of his patient may practice preventive medicine in foreseeing periods of physical stress. The example of the teenage daughter who decides to lose her chubbiness as she enters high school in order to compete with older girls has become so common that it is almost a cliché and presents an area in which the family doctor may advise toward sound weight control measures. Adolescent girls and older girls of child bearing age are prime nutritional problems in our society. The stresses of growth, endocrine development, and subsequent pregnancy on bodies inadequately nourished, jeopardize

the health of the girl and of children she will ultimately bear.

Although there has been a rapid decline since 1915 in deaths of babies under one year of age, the number of infants dying under one week of age has not shown such a gratifying rate of decline.[6] There are many causes of early infant death, many not yet elucidated, but careful studies in many countries have shown that one big factor concerned with premature delivery is the state of the mother's nutrition and health before pregnancy.[6] Early correction of subclinical nutritional complications will have an important bearing on successful termination of the pregnancy.

Many times the multiple problems presented by the patient coming to the physician are in part outgrowths of earlier dietary habits. For instance, the problem may be one of internal medicine, an accident involving shock, or a chronic constitutional disease complicated by obesity; but whatever the situation, the diet history of the patient has a bearing on diagnosis and medical management.

The busy physician, however, is faced with a complex situation in attempting to take a complete history on a patient. He is faced with a time-per-patient limitation, an economic factor, and often difficulty in obtaining trained personnel and adequate facilities to use in making necessary diagnostic tests, which aid in guiding and confirming his clinical evaluation of the patient. Methodical questioning of each individual patient to obtain a dietary history and subsequent appraisal and evaluation of this information is time consuming, tedious, and requires a sound basic knowledge of the composition and utilization of foods. The physician should remember that information obtained from the patient is qualitative in nature and commonly biased and colored by the patient in an attempt to please the physician.

A quantitative food record kept by the patient is the most accurate method available, without weighing the food intake, for obtaining a quantitative picture of the patient's dietary habits. In many cases, however, the food record would present unsurmountable difficulties for the physician. The next most accurate means would be taking a diet history. Maynard states, "Diet histories are very useful as a supplementary measure and as a means of obtaining a general picture of dietary habits, but they hardly suffice in themselves to provide a quantitative picture of food and nutrient intake. Much depends on the skill and experience of the interviewer and the time with each individual. Diet histories can be taken so rapidly and poorly as to result in generally erroneous rather than useful information."[9]

In obtaining further information about taking dietary histories, the physician may refer to suggested guides, such as those employed by Burke.[7] There are various food composition tables, such as the one prepared by the United States Department of Agriculture,[8] which can be employed in quantitatively calculating the diet of an individual patient.

In the large majority of individuals it is not feasible, although often desirable, to take quantitative dietary records. It becomes necessary to rely upon qualitative data based on the physician's trained questioning of the patient to obtain a picture of his probable nutrient intake. The development of a proficiency in this area of practice requires some basic knowledge of the chemical composition and biological value of foods and their role in both normal and pathological metabolism.

Maynard[9] further states that scoring the diet for adequacy in terms of specific food groups—such as two servings daily of fruits and vegetables high in carotene, etc.—is a method finding increasing use. A system of evaluating the diet in terms of some commonly used standard, such as the Basic Seven[10] or its recent modification, the Basic Four,[11] should give helpful information with many patients. It should be remembered that many food combinations may produce an adequate diet, and this method is fraught with possible error in evaluating diets not patterned after the system of scoring. If the limitations involved in this method are considered in evaluating the information obtained, the physician may find this to be a useful method.

The compilation of the clinical history of the patient, including the dietary history, and the weighing of this information with clinical and laboratory findings in terms of that individual's condition constitutes the "art" of the practice of medicine.

Frank deficiency disease syndromes are no longer prevalent, and the majority of nutritional deficiency states are sub-clinical in nature or are complications of other diseases. Moore[12] has indicated that it is in the zone of potential deficiency disease "where much thinking has been stimulated in the minds of surgeons who now respect the sub-nutritional state of patients as regards surgical post-operative prognosis and endeavor to uncover bad risks. . . ."

Lund[13] indicates that there are three important concepts for the surgeon: "First, a small percentage of patients come to him who, in addition to, or because of their surgical conditions, or for both reasons, are badly depleted in protein, various vitamins, and minerals. Second, a great many other patients come to him who are depleted in the same substances to a lesser degree, but nevertheless, a degree that may lead to an adverse result of operation. Third, an immediate result of injury, which includes

such diverse conditions as acute illness, anesthesia, poisoning, and surgical operations, is a further depletion of these substances that is quantitatively related to the severity of the injury.

"These concepts indicate why a knowledge of certain aspects of nutrition may be considered to be even more important to the surgeon than to the internist, because the internist seldom has to carry out a form of treatment that contributes additional injury to the already depleted patient."

Life expectancy in this nation has markedly increased; chronic diseases, so common in our resultant aging population, are receiving greater emphasis as they have become prime national health problems. The field of geriatric medicine is faced with a tremendous challenge, one important facet being the nutritional care of our senior citizens. Although the nutritional aspects of chronic disease are inadequately defined, nutritional research is continually turning up answers to the perplexing questions of the etiology of chronic constitutional diseases.[14]

In concluding this discussion of a few aspects of nutrition as related to the practice of medicine, the scholarly comment of McCollum[15] in his book, *A History of Nutrition,* seems most apropos. McCollum comments on increasing integration of the fields of physiology, botany, zoology, bacteriology, embryology, genetics, immunology, and virology as it has become clear that "all these divisions of knowledge embraced in separate courses of study are chemical in nature, and each tends progressively to become divisions of biochemistry." With increasing research and elucidation of the role of nutrients in both normal and pathological metabolism, the application of the principles of nutrition to the practice of medicine and surgery will increase in importance.

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We cannot live on the memory of a heritage forever. A heritage is like a well-constructed building. Even the most qualified architects, the most solid foundation, and the best building material will not guarantee that a structure lasts for eternity. . . . We need to tell ourselves and the next generation about this house called heritage and how much of our interest, thinking, time and money it will take to preserve the structure.

—*Walter Wiesman*

Hearing Conservation

An Outline of the Plan for School Children in Kansas

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Recent testimony before the Committee on the Conservation of Hearing and Speech of the Kansas Medical Society indicates that there are a large number of children in communities over the state who have undetected and untreated hearing problems. This testimony should come as no surprise to professional people who have made an effort to understand the nature of hearing problems in childhood. They realize that the family physician can do little to correct a hearing loss until the child comes to his office for treatment. Few physicians have the time or the equipment to carry out large-scale hearing surveys to detect all children with hearing problems in a given community. Therefore, unless arrangements are made for a mass program of hearing-testing, many children with hearing losses will go undetected.

Experience in several states has indicated that state medical societies have played important roles in planning and approving statewide programs of hearing conservation. For this reason the Committee on the Conservation of Hearing and Speech has undertaken a series of planning sessions devoted to this objective. The members feel that the deliberations carried on by this committee should provide the initial impetus for a better set of procedures for Kansas.

As a result of their meetings, members of the committees have evolved three principal assumptions to guide them in further planning: first, a great deal of information should be distributed to medical practitioners and lay persons alike to acquaint them with the best methods of care for children with hearing problems; second, uniformity of procedures for testing hearing and making referrals to medical practitioners should be established; and third, state agencies, as well as local agencies, should work together to bring about a better solution to the existing problems.

The Need for Hearing Conservation

Most careful surveys place the percentage of children with hearing impairments at approximately five per cent. A large percentage of these children are vulnerable to educational and social maladjustments. Others will develop chronic impairments unless they receive proper treatment. It is generally accepted that at least 50 per cent of all hearing problems in children could be prevented if adequate measures were taken. Perhaps the greatest need of all is for unrelenting effort to find and deal with all cases in their beginning stages.

A study by Fabe-Hansen in Denmark serves to emphasize the importance of hearing conservation. In a survey of 2,500 school children, 231 were found to have a variety of outer and middle ear diseases. Treatment resulted in complete cures for 73.3 per cent, substantial improvement for 14.7 per cent, and no help for only 10 per cent. The committee feels that such information emphasizes the dramatic importance of hearing conservation work. The following recommendations of the committee are presented to contribute toward an eventual program of a more complete nature.

The Process of Hearing Conservation

From the medical point of view, a state hearing conservation program can be broken down into four essentially inter-related phases, namely: detection, referral, medical treatment, and follow-up. For the process of *detection,* the committee recommends the use of the pure tone audiometer as the standard equipment for testing hearing. Group pure tone equipment may be used as an economical means for securing reasonably efficient, rapid screening of hearing in children at the second grade level and above. However, in most school systems an individual pure tone audiometer will serve adequately for screening purposes. The standard technique is the 15- or 20-decibel sweep test. The common practice of using a voice

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Dr. Schiefelbusch is director of the Bureau of Child Research at the University of Kansas. He has attended meetings of the Committee on Conservation of Hearing and Speech of the Kansas Medical Society and has prepared this article at the request of the committee. Members of the committee are: Dr. Victor R. Moorman, Hutchinson, chairman; Dr. C. W. Armstrong, Salina; Dr. J. A. Budetti, Wichita; Dr. H. R. Draemel, Salina; Dr. E. L. Gann, Emporia; Dr. C. L. Gray, Wichita; Dr. W. P. McKnight, Wichita; Dr. E. E. Miller, Pittsburg; Dr. Ruth Montgomery-Short, Halstead; Dr. W. D. Pitman, Pratt; Dr. Ralph R. Preston, Topeka; Dr. G. O. Proud, Kansas City; Dr. R. E. Riederer, Olathe; Dr. M. J. Ryan, Kansas City.

whisper test or a watch-tick test is not recommended by the committee. For children below the second grade, the committee does not recommend the use of multiple-hearing devices, but instead would suggest the use of an individual audiometric screening examination.

There are a number of audiometers that will cost in the vicinity of $200 to $400 dollars.* Dr. G. O. Proud reports that physicians in general practice are increasingly utilizing one instrument which costs around $135 as a means for testing hearing.

Whereas the audiometer is a highly definitive, scientific device for measuring hearing, it often is no better than the care that is given to it or the operator who uses it in determining hearing loss. Equipment must be calibrated frequently and should have the best of care to insure that it will be in proper working condition. Testimony indicates that hearing tests are today being administered by school nurses, speech therapists, teachers, volunteer workers, and many others throughout the state. The committee feels that there is a great need to set standards for competency among those giving hearing tests to children. School systems that are conducting tests should exert extreme care to insure that adequate personnel are obtained and that all personnel have undergone training prior to the initiation of a hearing-testing program.

The committee recommends the establishment of a two-weeks extension course to be given at several points throughout the state so that various persons giving tests to children may have an opportunity to develop desirable proficiencies for this work. The chairman of the committee has appointed Dr. G. O. Proud to serve as chairman of a sub-committee to work out the details of this two-week course. Others on the committee are Dr. C. P. Goetzinger, Dr. June Miller, and Mr. James McLean.

The committee also recommends that children who show a hearing loss on the screening test be given a second test, an individual audiometric examination, before a *referral* of the child to a physician. Those children who exhibit a hearing loss of 20 decibels or more at any two frequencies in a given ear, together with those who exhibit a loss of more than 30 decibels at any one frequency in a given ear, should be referred for medical attention. The child should be referred to the physician by the parents rather than by direct action of the school administration or by those conducting the hearing tests. This referral should be made only after the individual audiometric test has confirmed the results of earlier findings. The actual results of these tests should be sent to the doctor so that the information is available to him at the time he gives the examination. The school should add pertinent data to the audiometric profile whenever such data are available.

Before expecting the parents to take a child to the family physician, the school should send a note to the parents stating that a possible hearing defect was noted during the school survey and that this is an indication of the necessity for an immediate examination by a competent physician. A returned card to be signed by the parents might acknowledge receipt of the message, naming the doctor to whom the child will be taken. Schools shall assume responsibility for following up the case to determine whether or not parents have made arrangements for *medical treatment*. The physician, after securing permission from the parents for releasing such information, should advise the school of the results of his examination. Such reports should indicate the prognosis for correction of the hearing problem by medical treatment. It is further recommended, generally, that closer working-agreement be established between the school and the medical profession and that this working relationship be carried out in whatever manner seems most appropriate to the medical profession and local agencies.

The committee assumes that a plan for *follow-up* care is the responsibility of both medical and educational workers. The child is likely to need such provisions as additional hearing-testing in a year or two. If a loss is indicated at that time, he should again be examined by the physician. Other follow-up measures may involve hearing aid fittings, speech reading, speech correction, and/or special class room instruction.

The plans of the Committee on Conservation of Hearing and Speech are projected to include discussions of a public information series about hearing conservation. Members expect also to formulate recommendations for standardized referral and report forms to be used by members of the hearing team and to hold further discussions regarding training of hearing technicians and the establishment of hearing conservation programs.

* Physicians may secure information on different brands now available by writing the committee.

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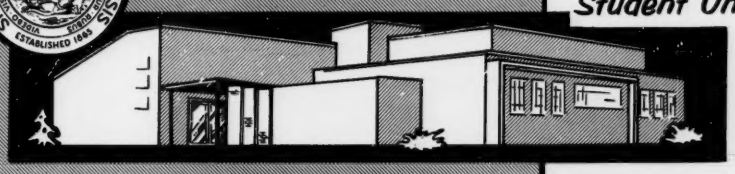

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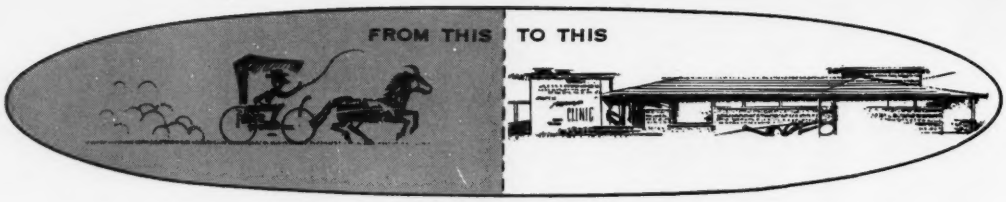

How to Replace an Out-dated Office

Are you handicapped in your practice by offices left over from the horse and buggy days of medicine? Many doctors are, you know — simply because their communities lack the modern medical housing they need.

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The Teeth

Measures Preventing Caries and Malocclusion Lead to Good Dental Health

WILLARD R. BELLINGER, D.D.S., M.P.H., *Topeka*

Those people seeking an early dental appointment who become upset because they may have difficulty in competing with some 2,000 other Kansans each dentist must serve, should hesitate for a moment and count their blessings. For instance, in British Solomon Islands the dentist-patient ratio is one to 99,000; in Fiji the ratio is one dentist to 106,000; in New Hebrides the ratio is one dentist to 250,000.

As a matter of fact, the people in the United States are most fortunate in having available to them the finest dental care in the world—and yet with the best dental care available in the world, there remain many dental health problems.

Almost everyone here in the United States, as elsewhere, is afflicted in some degree by one or more of the numerous chronic diseases, and dental caries (decay) is one of those chronic diseases. Of the many diseases to which man becomes subjected, except perhaps for the common cold, dental caries is the most universal physical defect and the most prevalent of all childhood afflictions.

For centuries man was resigned to expect excessive dental caries and the early loss of permanent teeth. However, as the result of scientific measures advanced for the prevention and control of dental caries, today's children may anticipate life-long sound dental health—but only if, through individual and community action, advantage is taken of the advances which have been made in dental science and dental treatment.

Most dental diseases or conditions may be termed truly chronic. These chronic diseases cover the entire life span of the individual from childhood to old age. The two chronic diseases which give the dental profession most concern are dental caries and periodontal disease.

The problem of dental caries is tremendous. Some of the contributing factors which magnify the problem are as follows: In contrast to many childhood diseases, it is not possible to vaccinate against dental disease which afflicts more than 95 per cent of children of school age; dental decay requires constant vigilance as one new cavity develops annually in the average child's mouth; dental decay is progressive, causing tooth mortality unless the condition is treated by a dentist; tooth structure, once destroyed, does not repair itself; the population is increasing yearly which means a greater patient load for the already busy practicing dentist.

Dr. Bellinger is director of the Division of Dental Hygiene, Kansas State Board of Health, Topeka.

Fluoridation of water deficient in the element and proper professional and home care can greatly reduce incidence of tooth decay and malocclusion. A program of examination and education is now being carried on in schools in Kansas by the Division of Dental Hygiene of the Kansas State Board of Health.

It has been stated authoritatively that in order to maintain the present patient-population ratio, it would require two new dental schools each year for the next 14 years or the equivalent expansion of existing facilities. Such expansion seems unlikely. An American Dental Association official has made the following statement, "If all the 97,500 dentists in the United States were to work 24 hours a day, and if all the people in the United States were to have all the dental treatment performed that should be performed, it would require 400 years to catch up with just what needs to be done today."

There are many citizens, because of their economic status, who cannot afford the cost of adequate dental care. If it were possible to eliminate the economic block, dental care still would not be available to all because there simply would not be enough dentists and dental hygienists to care for the dental needs of all the people. The solution lies in reducing the problem.

The above briefing should demonstrate that the problem of dental decay is staggering, and to meet the problem completely is impossible under existing circumstances. As dark as the situation may appear, it is not without a glimmer of hope because now with fluoridation of public water supplies and with other dental caries preventive and control meas-

ures at hand, the outlook for the future of dental health is far more encouraging.

With a resolute determination to meet the problem of dental caries, especially among children, the director and staff of the Division of Dental Hygiene, Kansas State Board of Health, with the complete support and cooperation of the officers and members of the Kansas State Dental Association, have developed and initiated preventive and control measures for meeting the staggering problem.

It is quite probable that many of the dental diseases and conditions so prevalent among adults would not have developed had dental or oral pathology been prevented or eliminated during childhood. Therefore, because dental health programs for children hold promise of greatest reward, much of the Division of Dental Hygiene's effort is directed to the younger citizens in Kansas.

For the prevention and control of dental decay in children's teeth, four specific recommendations are emphasized. These recommendations are:

1. Early and frequent dental care, beginning at the age of two and a half years.

2. Proper toothbrushing procedure, namely, method of brushing and the most effective time to brush the teeth, immediately after eating.

3. Proper diet, which includes cutting down on the consumption of sweets and the elimination of between-meal sweet snacks. A diet containing the essential body building elements is adequate for the development of the teeth.

4. Fluoride prophylaxis which includes topically applied sodium fluoride to the surfaces of children's teeth; and fluoridation for fluoride-deficient public water supplies which has proved to be a completely safe, effective, and practical measure for reducing the rate of dental caries in children's teeth up to 60 per cent.

For improving and protecting the dental health of the children of Kansas, the division's two most effective programs and the two programs demanding the greatest amount of planning and effort are: (1) the school dental health program and (2) the fluoridation of public water supplies. These two division programs will be discussed briefly.

The school dental health program prescribes a procedure whereby early and regular visits to the dentist result in four specific advantages: (1) dental defects may be discovered early when they may be corrected with the least amount of discomfort to the child; (2) early symptoms of oral disease may be detected and corrected; (3) irregularities of tooth position may be observed early and treatment instituted; (4) the cost of dental care is reduced.

In approaching maximum dental health for children through the school dental health program, the following steps are recommended: (1) provide classroom instruction in dental health practices, such as personal care, professional care, and proper diet; (2) provide for at least one annual dental inspection for each pupil; (3) notify parents of the results of the inspection; (4) through follow-up methods by teachers, nurses, and dental hygienists, pupils are motivated to seek correction of dental defects; (5) encourage responsible bodies to make dental care available to pupils whose parents or guardians are financially unable to seek private care; (6) excuse children from school for dental appointments; (7) maintain accumulative data for measuring the progress of the program in meeting the dental needs of school children; (8) provide for lay education and participation.

During the past nine years, the school dental health program was operating in each of the 105 counties in Kansas. A valuable feature of the school dental health program is that the program reaches and assists the great majority of families with children in each of the counties in the state.

Excellent summary reports received from many of the schools throughout the state prove that the principles adopted for conducting the school dental health programs are sound and, if properly executed as recommended, are effective.

The fluoride adjustment of fluoride-deficient public water supplies offers the greatest hope in meeting the ever-increasing problem of dental caries. During the past several decades two phases of study relating to fluorides preceded the present era of controlled fluoridation. First was the study of toxic manifestations, namely, unesthetic dental fluorosis, due to the ingestion of water containing an excessive concentration of fluoride during the period of tooth development. Second was the period when studies revealed that the ingestion of water containing an optimal amount of naturally occurring fluoride during tooth development resulted in teeth having a high resistance to dental caries. Third is the present era in which it has become evident that by adding a small amount of fluoride to a communal water supply which is deficient in this element, dental caries is significantly reduced with no ill effects to consumers.

Fluoridation is the process of adding a tiny amount of fluoride to a public water supply that does not have enough of this decay preventive substance of nature. Fluoride may be found occurring naturally in varying degress in all public drinking water and many foods. Research repeatedly has verified the fact that the rate of dental caries may be reduced up to 60 per cent when water containing an adequate

amount of fluoride (1.0 ppm) is ingested during the period of tooth development, namely the first eight to ten years of life. Leading American authorities in human nutrition, chemistry, pharmacy, dentistry, and medicine virtually are in unanimous agreement that fluoridation is a safe, effective, and practical public health measure for reducing the rate of dental caries in children's teeth.

Fluoridation, although seemingly slow in being accepted, actually is progressing rapidly for a public health measure. Today more than 1,600 communities in the United States have made the fluoride adjustment in the public water supply for reducing the rate of dental caries in children's teeth. Today approximately 33,000,000 people in the United States —one of every four served by central water systems —now have access to water containing an optimum of fluoride. In 85 per cent of 1,600 United States cities with controlled fluoridation, the fluoride adjustment came about through favorable action by the city governing body in approving and providing for the dental public health measure.

Kansas is keeping abreast in the fluoridation program. In Kansas 30 cities with a total population of approximately 325,000 have made the fluoride adjustment in the public water supply. In addition, there are 72 cities in Kansas with a total population of approximately 125,000 where fluoride occurs naturally in the water supplies in an amount which is adequate to reduce materially the rate of dental caries. In these 72 cities no additional fluoride is required.

Fluoridation progress may seem slow and may be temporarily delayed, but it cannot be stopped. Without doubt fluoridation will go down in history among the great public health measures.

Public appreciation of the rewards of good dental health does not come about through accident—rather, it is the result of much concentrated educational effort. Yet, after many years of continuous educational effort, some parents still do not appreciate the need for adequate dental care for the deciduous teeth—teeth which are equally as valuable to the young child as the permanent teeth are to the adult. Decay and infection of deciduous teeth are equally as detrimental to health as decay and infection of permanent teeth. Neglect of cavities in deciduous teeth often results in toothaches, infection, and premature loss of teeth.

Should advance decay result in premature loss of the posterior deciduous teeth, a shifting of the remaining teeth leaves insufficient space for the permanent teeth to erupt in proper alignment. Improper alignment of permanent teeth, termed malocclusion, may produce various harmful effects. It may (1) interfere with proper chewing of food; (2) cause speech defects; (3) lead to tooth decay and contribute to periodontal disease in later life; (4) cause facial deformities; (5) lead to social and emotional disturbances.

On the basis of several surveys, it has been estimated that approximately 30 per cent of children of any given age group need some form of orthodontic supervision. Malocclusion due to inherited causes cannot be prevented. However, it has been estimated that 80 per cent of malocclusion may be prevented through recommended preventive measures which include preventing the premature loss of teeth, through early and regular dental care, placing of space maintainers when indicated, and by correcting harmful mouth habits which the dentist can recognize. Many parents are paying for orthodontic services which possibly could have been prevented through adequate dental care early in the child's life.

If the dental caries preventive and control measures presently available are to be made effective, the membership of community groups interested in the health of children must not be content with passive interest and endorsement. Rather, it is imperative that these local organizations accept the challenge of securing the benefits of these preventive and control measures for improving the dental health of the children in the community.

Much of the dental caries formerly expected to occur in children's teeth is being prevented in many communities. Therefore, in order to attain the lifelong dental health which is available through the advances which have been made in science and dental treatment, knowledge must be put into action.

Division of Dental Hygiene
Kansas State Board of Health
State Office Building
Topeka, Kansas

CHANGES OF ADDRESS

Members of the Kansas Medical Society will receive the JOURNAL and correspondence from the Executive Office promptly only if correct addresses are on file. Report changes to Kansas Medical Society, 315 West Fourth Street, Topeka, Kansas.

Tuberculosis

Case-Finding, Diagnostic Facilities, and Treatment in Kansas

RALPH I. CANUTESON, M.D., ***Lawrence, and***
JOHN L. MORGAN, M.D., ***Emporia***

The Kansas Medical Society Committee on Control of Tuberculosis in 1958 formulated a policy to serve as a guide in the case-finding program for tuberculosis in Kansas.

The object of a tuberculosis control program is to find infected patients early in the course of their disease, to direct them to competent diagnostic and treatment facilities, and to aid in their eventual return to their normal place in society. Discovering a patient with suspected tuberculosis is important, but this is of no more than statistical interest unless the patient is directed to skilled diagnostic and treatment facilities with an accompanying investigation of his contacts.

As it is everywhere, the tuberculosis picture in Kansas is changing. No longer is tuberculosis a disease of the young. A study of morbidity and mortality rates shows a shifting involvement from the age group under 30 to those over 40 years of age. Increasing industrialization in Kansas, as elsewhere, with a migration of population to urban centers, has contributed toward an easier dissemination of the disease.

There has recently been widespread attention to the possible hazards of radiation, as witnessed by the numerous articles on this subject in current medical journals. It has been urged that every controllable source of ionizing radiation be limited to a minimum compatible with the gain from its use. The committee was guided by many opinions in the literature in this regard, and the following recommendations were made applicable to case-finding surveys and the follow-up of suspicious lesions.

1. Mobile x-ray units should be used in the area with the highest prevalence of tuberculosis as shown by data from previous surveys. These areas include about one-fifth of the counties of Kansas, generally in the eastern third of the state, and these involve the bulk of the total population. Limiting the use of our existing mobile x-ray equipment to these critical areas will allow survey of a higher percentage of eligible suspects.

2. The age of eligibility for mobile unit x-ray should be raised from 14 to 20 years of age.

3. For retake films of suspicious lesions, the first recourse should be a comparison with previous films. If no previous films are available, a repeat x-ray should be done locally with a 14″ x 17″ film, rather than by the mobile unit.

4. The tuberculin test should be utilized in identifying those who need chest x-rays (for the most part 14″ x 17″ films taken locally) in the following groups:

a. Areas of low prevalence of tuberculosis.
b. Groups below age 20.
c. Institutional groups, including colleges.
d. Penal institutions.
e. Mental hospitals.
f. Training schools.
g. Food handlers.
h. Baby sitters.
i. Teachers.
j. Cosmetologists.
k. Barbers.
l. Medical personnel.

An essential sequel to the case-finding program consists in furnishing adequate diagnostic and treatment facilities in all areas of the state. A recent survey of tuberculosis facilities in Kansas revealed that there are sufficient tuberculosis hospital beds and there are increasing numbers of qualified chest physicians. There is, however, a delay or perhaps no action at all on the patient's part in reporting to his family physician or other diagnostic resource when he has been informed that he has a suspicious lesion on his chest x-ray. The committee has recommended the increased use of public health nurses to act as a liaison between a suspected or known tuberculosis patient and his physician.

The committee has recommended that regional tuberculosis clinics be established in areas where there is a need, that these clinics be organized and

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Members of the Committee on Control of Tuberculosis are: J. L. Morgan, Emporia, chairman; A. L. Ashmore, Wichita; A. Baude, Topeka; R. M. Brooker, Topeka; J. A. Butin, Chanute; R. I. Canuteson, Lawrence; A. M. Cherner, Hays; R. F. Conard, Emporia; J. C. Dowell, Lawrence; M. J. FitzPatrick, Kansas City; J. K. Fulton, Wichita; R. A. Lawson, Chanute; J. M. Mott, Topeka; G. W. Nice, Topeka; R. M. Owensby, Mankato; Charles Pokorny, Halstead; J. W. Spearing, Columbus; C. F. Taylor, Norton, and P. H. Wedin, Wichita.

staffed insofar as possible by local agencies (county medical society, the health department, local tuberculosis associations), and that financial support of the clinics be shared by the area served and the Kansas State Board of Health, the latter agency to aid in the establishment and maintenance of the clinics.

The suggestions detailed above have already been implemented in part. The Kansas State Board of Health is now operating mobile x-ray units on a revised schedule with more time spent in counties with a high tuberculosis prevalence as shown by previous surveys. Substitution of the tuberculin test as a screening procedure in the groups listed above is now in the planning stage. The first regional diagnostic clinic following the above recommendations has been established at Stormont-Vail Hospital in Topeka. This Northeast Kansas Chest Clinic, so-called, serves the counties adjoining Shawnee and was founded following the advice of a local committee representing the Shawnee County Medical Society, the Shawnee County Health Department, and the Kansas Tuberculosis and Health Association following a study to determine what facilities could be made available to the out-patients who had been going to Hillcrest, this institution having been closed in July, 1958.

The Committee on Control of Tuberculosis is now considering needs for facilities for other areas in Kansas. Results to date speak well for the constructive cooperation of local physicians with the various health agencies involved in the control of tuberculosis. As a guide to the practicing physicians in the state, the committee is now preparing a series of five articles on different phases of the tuberculosis problem in Kansas for publication in the JOURNAL OF THE KANSAS MEDICAL SOCIETY.

Immunization Recommendations

Immunization schedules for adults were outlined recently in an article published in the *Journal of the American Medical Association.*

Answering a query from a Michigan physician, one of the 900 physician consultants to the *Journal* said the "optimum intervals" for adult immunization, assuming that an adequate initial immunization series has been given, are as follows:

Smallpox. Vaccination is needed every three years.

Diphtheria. Immunization is not recommended for adults except in cases where the person shows no immunity after exposure to special risks.

Tetanus. A booster dose should be given at the time of each injury where the danger of tetanus exists, with reinjection in the absence of an injury at intervals of no longer than five years.

Typhoid. Reinforcing injections are necessary every three years.

Influenza. Injections should be given every year to "risk cases," such as old or chronically ill persons.

Poliomyelitis. Not enough time has elapsed yet to learn about the duration of protection conferred by the Salk vaccine, but a fourth dose, given not earlier than one year after the third dose, could be administered to individuals exposed to special risks.

The consultant noted that these are general guiding schedules which vary according to circumstances. For instance, for persons traveling to areas where smallpox is prevalent, revaccination at intervals as short as six months may be desirable. The same is true for persons living in areas where typhoid is common. They should get a booster dose every year.

PRESIDENT'S PAGE

DEAR DOCTOR:

One hundred years ago organized medicine was born in Kansas. Today the Kansas Medical Society holds the oldest charter of any Kansas corporation.

Ten years ago the Kansas Legislature appropriated four million dollars to expand the facilities of the University Medical School so that more doctors would be available for the smaller communities of Kansas. More than 60 hospitals were built in these smaller communities and the result has been the much broader rural medical care coverage that we know today.

The National Rural Health Conference of the A.M.A. was organized as a result of the Kansas development of medical services to rural areas. This year their annual meeting is being held in Wichita as a part of the Centennial of the Kansas Medical Society.

This means that for three days, March 5, 6, and 7, our Society is host to the nation. Every state is to be represented. It behooves the doctors of Kansas to welcome this fine group to our state.

Please be sure that your own local society has at least two or three doctors in attendance, and make every effort to be there yourself. I hope to see you in Wichita.

Most cordially,

Thomas P. Butcher M.D.

EDITORIAL COMMENT

Horizons in Rural Health

By F. S. Crockett, M.D., Chairman of the A.M.A. Council on Rural Health

It is a great privilege for the members of the Council on Rural Health to be invited by the Kansas Medical Society, during its centennial year, to hold our Fourteenth Annual Conference at Wichita, March 5-6-7, 1959.

One hundred years of service dedicated to giving an ever better measure of health protection should be not only a source of great pride to Kansas physicians but a constant realization of comfort and safety to all citizens of this great state.

It is with justifiable pride that we devote our annual conference, dedicated as it is, to constantly improving health needs in the communities in which we live.

The Council on Rural Health is the official representative of the 160,000 doctors who constitute the American Medical Association, including the 2,000 who form the Kansas Medical Society. The council on the national level and the Committee on Rural Health on the state level are the channels through which we doctors work.

But rural health it not solely a doctor responsibility. The council was appointed by the Board of Directors of the American Medical Association in response to an invitation by farm people. The Board of Directors of the American Farm Bureau Federation invited us to join with them in a study of the health situation in 1945 and to seek a possible solution. This was the original partnership formed between farm people and the medical profession. It has never ceased to be an organization of lay and professional people. It has grown in many ways.

To the original two participants there have been added, as advisory members, the National Grange, the Extension Services of our land grant colleges, the Farm Foundation of Chicago, the American Agricultural Editors' Association, and the American Veterinary Medical Association. This gives us a complete cross-section of the leadership of producers, educators, and the medical profession clear across the board. It is with the help of these interested people that much has been accomplished these past 14 years.

The philosophy of the council has been of the typical American variety. We have sought to help people solve their own problems. We have never gone in and done the job for them.

The purpose of these annual sessions is to highlight the work being done in the states at a community level. It is only where people live and work that we can make available the best of medical care. Our ideal is a first-class doctor wherever one is needed. The graduates of today's medical colleges have ample education and training when they finish their hospital experience. They are prepared to practice in the biggest cities, but they may prefer the village for a home. Today's doctors are well prepared, and patients may go to them with confidence. A physician in a small town will likely remain there if the residents of the area let him feel their confidence by using his services.

At the Wichita conference there will be much of interest for everyone, both laymen and physicians. The program will include such subjects as hospitalization and health insurance plans; mental health in relation to the broad social problem; the place of nutrition in health maintenance; newer ideas in the care of long-time illness; care for the aged and the handicapped; a program for dental care as an important part in health; success stories of communities that have solved some health problems and can tell us what they have done to get and hold a doctor.

These subjects will be presented by experts in their respective fields. Audience participation is highly desired. An experienced discussion leader will handle questions from the floor and assure everyone an opportunity to be heard.

We look forward to an outstanding meeting at Wichita, March 5-6-7. We are grateful to the officers and personnel of the Kansas Medical Society for their enthusiastic welcome and assistance in developing the program.

Health Information, Pocket-Style

Last week a young farmer took a folded card from his wallet and made an entry. "Third polio shot," he wrote. Then he added the date.

The farmer looked at the card in his hand. Titled "Personal Health Information," it contained written notations that served as an emergency health record for him and for his physician.

It listed diseases he has had. It gave his blood type, the number of his health insurance policy, his allergies. It even made note of the fact he had had his appendix out in 1955.

At the bottom of the card was a round seal and the words "Prepared by the American Medical Association."

The Personal Health Information card is a project originated for farm people but now being adopted by their city neighbors. It started as an

idea of the American Medical Association's Council on Rural Health—an idea based on the need for a permanent record of health information that would be readily accessible at all times.

In this age of mobility, a rural resident never knows where his travels will take him—to market with products, to the county seat to check on legal matters, to a metropolitan center for a meeting. Should an illness occur, he needs basic data to help his doctor give him fast, efficient care.

"The health information card is not intended to replace official medical records," points out Dr. F. S. Crockett, Lafayette, Indiana, chairman of the Council on Rural Health. "It is merely a collection of personal information which most of us are supposed to remember, but never do. The solution is to write it down."

The popularity of the card was immediate. The small supply originally printed by the council was soon exhausted. The project grew in size, and the A.M.A's Board of Trustees took it on as an Association-wide activity instead of limiting it to farm people.

A million cards were distributed in less than a year. A second million was ordered.

Biggest impetus given to the Personal Health Information card came in October, 1958, when *Reader's Digest* told about its availability. The article was careful to explain that health information cards should be obtained from physicians who, in turn, could get them from their local or state medical societies. In spite of these instructions, the American Medical Association was swamped with requests for the pocket card.

Primary distribution of Personal Health Information cards will continue to be through practicing physicians. The American Medical Association believes that the physician, as the health advisor, should be the one to give the card to patients—and help to fill it out.

Supplies of cards can be obtained from the Kansas Medical Society or by writing direct to Communications Division, American Medical Association, 535 North Dearborn, Chicago 10, Illinois.

Tetanus Immunization

The publication of the rural health issue affords another opportunity to re-emphasize the importance of tetanus immunization.

The efficacy of tetanus toxoid immunization was proved beyond all doubt during World War II. Still we continue to see an appreciable number of tetanus cases throughout the state; for instance, in one four-year period, 24 cases were reported, and ten patients died.

Farmers and rural workers are a vulnerable group since they constantly deal with complicated mechanical equipment, are frequently weary, and accidents are a natural result. The editors of the JOURNAL urge physicians and farmers alike to join in eliminating this unnecessary hazard.

More People, More Problems

The number of people on earth increased in 1958 by 47,000,000, according to the Population Reference Bureau, a growth exceeding the total population of all the New England states, plus those of New York, New Jersey, Pennsylvania, and Maryland. Furthermore, says the bureau, if the present birth rate persists, by 1980 the world population will be more than four billion persons, an overwhelming percentage of whom will be living in what are now known in the West as underdeveloped countries.

The nutritional problem in this prospect is obvious. Less apparent, the Health News Institute points out, is the health problem. Millions of people will be huddled together under conditions which will be open invitations to epidemics and medical disaster.

In long-range anticipation of this population growth, a score or more of American pharmaceutical houses have in the past year announced plans to expand their overseas operations on five continents, building plants, hiring native personnel, with only American know-how in local charge.

And perhaps this is the really constructive kind of statesmanship. In the long run, a drug which destroys malaria in India or kills yaws in Africa may prove to be a more decisive weapon in winning the Cold War than any intercontinental ballistic missile.

More than one million dollars in grants and fellowships for nursing research was awarded during the past year by the Public Health Service, U. S. Department of Health, Education, and Welfare. Awards include 15 nursing research projects and 12 fellowships to help students prepare for research careers.

Funds available for these projects since the program began in 1955 now total $2,660,000. Awards have been made for a total of 57 research projects and scholarships to 60 persons.

Week-end crashes accounted for 15,730 killed and 766,090 hurt during 1955.

He insisted on his right-of-way—
They're giving him his "rites" today!

BLUE SHIELD

Blue Cross-Blue Shield For Rural Residents

The theme of rural health in this issue of the JOURNAL naturally raises the question, "What is being done by Blue Cross and Blue Shield to make prepayment more readily available to people in rural areas?"

Blue Cross and Blue Shield have two major approaches to enrolling rural families—

1. Through their Farm Bureau Association or other farm associations, and
2. Through the non-group enrollment program.

A major problem to be solved in making prepayment available to rural families is the difficulty of grouping these people so that the plan may obtain a reasonable cross section of health and at the same time be able to offer attractive rates to these rural families.

A major part of this problem was solved in 1954 when Kansas Farm Bureau and Blue Cross-Blue Shield established a working agreement whereby association group enrollment would be made available to members of the Farm Bureau. Through that agreement each County Farm Bureau Association was considered as a group with a certain quota to maintain if its members were to be enrolled.

Farm Bureau leaders throughout the state participated in announcing this enrollment and in making the benefits of the program known to Farm Bureau families. As a result of continuous efforts in this activity, 94 Farm Bureau county units have been enrolled with a total enrollment of 62,300 members.

This cooperation between Blue Cross-Blue Shield and the Farm Bureau made it possible to offer a group plan to Farm Bureau members at lower rates than are charged to non-group members and in the initial enrollment accept people in all conditions of health. In other words, because of the grouping of Farm Bureau people it was possible to eliminate the use of the Health Statement Application wherein certain pre-existing conditions have to be excluded from benefits.

It may be said that "through the Farm Bureau and other farm associations, every farm family has access to an adequate program of benefits in Blue Cross-Blue Shield."

Non-Group Enrollment Continuous

In addition to the Farm Bureau enrollment, Blue Cross-Blue Shield also carries on a continuous program of non-group enrollment. It is true that the non-group program costs individual families higher rates and requires that people join through the use of a Health Statement Application. Also, people 60 years of age and over are not eligible to join through the non-group program.

Nevertheless, this program does make it possible for young rural families and those in reasonably good health up to age 60 to get protection in Blue Cross-Blue Shield.

Special Community Effort in 1959

During 1959, Blue Cross-Blue Shield will conduct 12 special community wide non-group campaigns. These campaigns will be accompanied by intensive work in group enrollment, as well as by our Blue Cross-Blue Shield representatives. This means that during the county campaigns the organization will be contacting all employee groups in the areas and doing considerable work among prospective groups.

The purpose of this non-group campaign is to renew and stimulate interest in our program and to give people an opportunity to convert from less adequate forms of coverage to Blue Cross-Blue Shield. The campaigns this year are being held as follows:

Neosho	January 19-28
Barton	January 21-30
Ford	February 2-11
Leavenworth	February 18-27
Cowley	February 23-March 4
Saline	March 4-13
Reno	March 16-25
Douglas	March 18-27
Montgomery	April 13-22
Riley	April 15-24
Atchison	May 6-15
Seward	May 11-20

Both rewards for safe performance and punishment for safety violations have been tried in an effort to reduce the number of accidents on United States and Canadian highways.

Municipal authorities in Jackson, Michigan, reward motorists with free parking for one day each time the city goes 90 days without a traffic death. Paper bags hung over meters on the "celebration" days carry this wording, "Traffic Safety Day—Park Free Today. Continue to Enjoy Safety—Let's Go for 90 More!"

Suspension of his driver's license for life was the sentence handed out to a motorist in the Province of Alberta, Canada, after he had been found at fault in an accident in which his father was killed. He was convicted of driving "in a near-drunken condition" and while his license was suspended because of an earlier drunk driving conviction.

PROGRAM

14th Annual Conference on Rural Health
Broadview Hotel–Wichita–March 5-6-7, 1959

Horizons in Rural Health

THURSDAY MORNING SESSION
March 5, 1959

CARLL S. MUNDY, M.D., Presiding

8:00 Registration—No Registration Fee
9:45 Opening Service
Community Singing—Lester F. Weatherwax, Farm Director, Radio Station KFBI, Wichita
10:00 Invocation—Dr. Homer K. Schafer, Executive Director, Wichita Council of Churches, Wichita
10:05 Greetings—The Honorable George Docking, Governor of the State of Kansas, Topeka
10:10 Horizons in Rural Health—F. S. Crockett, M.D., Chairman, Council on Rural Health, A.M.A., Lafayette, Indiana
10:25 To the Stars through Difficulties—Louis M. Orr, M.D., President-Elect, A.M.A., Orlando, Florida
10:45 The Do It "Yourself" Age—Earl L. Butz, Ph.D., Dean of Agriculture and Director, Agricultural Extension Service, Purdue University, Lafayette, Indiana
Discussion Leader—J. P. Schmidt, Ph.D., Extension Professor, Agricultural Extension Service, Ohio State University, Columbus
11:40 Luncheon Period

THURSDAY AFTERNOON SESSION

ALLEN T. STEWART, M.D., Presiding

2:00 Community Singing
2:05 Experiment in Community Health Participation—Moderator: V. E. Wilson, M.D., Associate Dean, University of Kansas School of Medicine, Kansas City
3:30 Milk Break
3:40 Workshop (Continued)
4:15 Discussion
4:30 Recess

THURSDAY EVENING

CARROLL B. ANDREWS, M.D., Presiding

8:00 Recreational Program
Youth's Showcase—Presentation by Agricultural Extension Service, Kansas State College, Manhattan
Our Community's Answer—Spirit of Kansas, a vocal and instrumental presentation

FRIDAY MORNING SESSION
March 6, 1959

W. A. WRIGHT, M.D., Presiding

9:00 Community Singing
9:05 Rural Health Count-Down—J. D. Smerchek, Kansas Farm Bureau, Manhattan
9:20 Grange Thinking on the Rural Health Front—Roy Battles, Assistant to the Master, The National Grange, Washington, D. C.

9:35 Who Will Harvest My Wheat?—Aubrey D. Gates, Director, Division of Field Services, A.M.A., Chicago, Illinois
9:50 Discussion
10:10 Milk Break
10:20 Family Physician and the Cost of Medical Care—Conrad Barnes, M.D., Seneca
10:35 The Best Buy in Insurance—Charles H. Coghlan, Executive Vice-President, Ohio Medical Indemnity, Inc., Columbus
10:50 The Hospital Dollar—John Pond, Management Consultant to the Larimer County Hospital, Boulder
11:10 Discussion
11:45 Luncheon Period

FRIDAY AFTERNOON SESSION

F. S. HUMPHREY, M.D., Presiding

2:00 Community Singing
2:05 How Hospitals Get People Well—C. R. Brott, M.D., Beatrice, Nebraska
2:20 Mental Health as a Part of General Practice—Alonzo P. Peeke, M.D., Volga, South Dakota
2:35 The New Era of Aging—Frederick C. Swartz, M.D., Chairman, Committee on Aging, A.M.A., Lansing, Michigan
2:50 Discussion
3:15 Milk Break
3:25 Horizons in Mental Health—Prescott W. Thompson, M.D., Director, Out-Patient Service, The Menninger Clinic, Topeka
4:00 Discussion
4:30 Recess

FRIDAY EVENING BANQUET SESSION

F. S. CROCKETT, M.D., Presiding

7:00 Banquet
Invocation—Reverend Donald Frogge, Pastor, Upland-Alida Parish, Junction City
Introduction of Special Guests
Greetings—Woman's Auxiliary, A.M.A., Mrs. E. Arthur Underwood, President, Vancouver, Washington
Student A.M.A., Patricia Jean Arnold, Senior, University of Kansas School of Medicine, Kansas City
Musical Interlude
The Fifth Dimension—T. P. Butcher, M.D., President, Kansas Medical Society, Emporia

SATURDAY MORNING SESSION
March 7, 1959

NORMAN H. GARDNER, M.D., Presiding

9:00 Community Singing
9:05 This We Know—Mrs. E. Arthur Underwood, D.D.S., President, Woman's Auxiliary, A.M.A., Vancouver, Washington
9:25 Progress in the Control of Some Diseases of Animals Affecting the Rural Health —Martin P. Hines, D.V.M., American Veterinary Medical Association, Raleigh, North Carolina
9:45 Discussion
10:10 With Your Apron On or Off—Mrs. Kenneth D. Schneider, Nashville, Indiana
10:25 Discussion
10:35 Recess
10:45 Ideas Pay Off in Action—Paul C. Johnson, Editor, *Prairie Farmer,* Chicago
11:05 Discussion
11:15 Rural Health—Past, Present and Future—Franklin D. Murphy, M.D. Chancellor, University of Kansas, Lawrence

THE MONTH IN WASHINGTON

Editor's Note. The following summary of Washington news was prepared by the Washington office of the A.M.A. for distribution to state and regional medical journals.

Since the release last summer of the much-discussed Bayne-Jones report on medical education and research, the administration has been reviewing the situation and the possible need for Congressional action on federal aid to the country's medical schools.

Just how strong is its case is likely to be determined in the session of the 86th Congress now underway. In the closing phases of the 85th Congress, a health subcommittee of the House took up the subject amid a feeling at that time that proponents had failed to achieve a sense of urgency.

Another year has rolled around, and the climate may be different. The Bayne-Jones report revived the medical school aid issue. Not since the six-year-old report from the Magnuson Commission has a medical report been quoted so extensively. The Bayne-Jones report calls for a doubling of medical research spending by 1970 and the immediate start on at least 14 new medical schools.

Secretary Flemming of Health, Education, and Welfare let it be known soon after taking office last summer that he was not going to allow the report to be "put on the shelf to gather dust."

In an address to the American College of Surgeons, Surgeon General Leroy Burney sketched briefly a plan for another consultants' group not unlike the Bayne-Jones committee. It is now looking into the question of need for more physicians in the next decade. No date has been set for the final report. At its first meeting in December, the committee authorized two staff studies to get underway: on construction costs of newer schools and on the financing of present-day medical school operations.

Chairman of the group is Frank Bane, former executive secretary of the Council of State Governments and active in public affairs for more than 30 years. Other members include Dr. Edward L. Turner, American Medical Association's council on medical education and hospitals; Dr. Ward Darley, Association of American Medical Colleges; Dr. Julian Price, A.M.A. trustee; Dr. Edwin L. Crosby, American Hospital Association; Dr. Vernon Lippard, Yale medical school dean; John McK. Mitchell, Pennsylvania medical school dean; Dr. Isador S. Ravdin, Pennsylvania medical affairs vice president; Dr. Clayton G. Loosli, Southern California medical school dean; Dr. Charles E. Smith, University of California public health school dean; Morris Thompson, president, Kirksville College of Osteopathy and Surgery; Harold Hillenbrand, D.D.S., American Dental Association; Miss Marion Sheahan, National League for Nursing; Dr. Harold L. Enarson, Western Interstate Commission for Higher Education; Emory Morris, D.D.S., president, Kellogg Foundation; Douglas E. H. Williams, Dunbar Community Association; Fred C. Cole, Ph.D., Tulane; Robert C. Anderson, Ph.D., director, Southern Regional Education Board; Alvin C. Eurich, Ph.D., vice president, Fund for the Advancement of Education; John G. Searle, president, G. D. Searle and Co.; and the Very Rev. Robert J. Slavin, president, Providence College.

Its final report in all likelihood will have a strong influence on the course of legislation.

Notes

The Office for Dependents Medical Care has decided that this year's contracts for Medicare between the Defense Department and state medical societies and other groups will be negotiated by mail. ODMC felt that the whole field had been pretty thoroughly gone over last year and furthermore that administrative costs are no longer an issue. States will be supplied copies of proposed department changes in contracts 45 to 60 days prior to expiration dates, according to Brig. Gen. Floyd L. Wergeland, head of Medicare.

The National Air Pollution Conference held in Washington is beginning to produce results. HEW and the auto industry have worked out an agreement on research into devices for controlling auto exhausts. Exhaust experiments are underway at the Robert A. Taft Sanitary Engineering Center on animals, plants and bacteria.

Federal workers contributory health insurance proposal has taken a new lease on life. The AFL-CIO Government Employees Council which speaks for half a million civilian employees is suggesting the following: (1) the U. S. would pay for two-thirds of basic insurance up to a maximum contribution of $14 a month; the worker would pay the balance and could also broaden coverage for himself and family by paying the extra cost himself, (2) there would be a choice of basic insurance such as commercial Blue Cross, Blue Shield, employee union plans, (3) the government would pay the full cost of major medical insurance but the worker would have to have basic coverage; catastrophic coverage would meet 75 per cent of costs.

Congress has failed in past years to enact legislation. Among the reasons has been failure of the various interested groups to get together on a single bill.

Clinicopathological Conference

Chronic Focal Seizures and Acute, Progressive Clouding of the Sensorium

Case Presentation

An unresponsive and semi-comatose 79-year-old Negro man was admitted to KUMC for the first time on September 25, 1957, and died on October 5, 1957.

His history was obtained from his wife and daughter and from a neighbor who was a nurse. He had apparently been in his usual state of health until September 23, 1957, when he had right-sided seizures and was unable to speak intelligibly. He was seen by his family physician who made the diagnosis of a "stroke." Slight improvement was noted the next morning, but the seizures recurred that evening. The physician then advised emergency admission to this hospital.

For several years he had had intermittent seizures which consisted of an abrupt cessation of activity and several moments of expressionless staring followed by shaking motions which spread from his left hand to his left foot and then over his whole body. These seizures frequently lasted for hours and were followed by a long sleep and an uneventful recovery. He was on no known medication.

The patient was a well developed but emaciated and dehydrated man with continuous and simultaneous clonic, convulsive movements of the left side of his face, left arm, torso, and lower extremities. His blood pressure was 125/75; pulse rate, 96 and regular; respiratory rate, 24; and temperature, 99.6 degrees rectally. His head turned tonically to the right, but his neck was supple. The eyes deviated to the right, and the pupils were small and fixed. The fundi were mildly arteriosclerotic. The chest was emphysematous, and dry rales were heard throughout both lung fields. Decubiti were present on the buttocks. The deep tendon reflexes were hyperactive but equal; there were no pathological reflexes. The left nasolabial fold was diminished. The teeth were carious.

The catheterized urine specimen had a specific gravity of 1.008, one plus albumin, no sugar, a few red blood cells, 40 to 50 pus cells per high power field with occasional clumps, and the specimen was loaded with motile bacteria. The hematocrit was 40 ml., and the hemoglobin was 14.1 gm. per cent. The white count was 12,500 with 83 per cent polymorphonuclears (71 per cent filamented), 14 per cent lymphocytes, 3 per cent monocytes. The Kolmer titer was 256 units; Kahn, 64 units. The blood urea nitrogen was 10.1 mg. per cent; blood sugar (during infusion of glucose), 117 mg. per cent; sodium, 137 mEq/L; potassium, 4.6 mEq; chloride, 105 mEq; and carbon dioxide, 23.2 mEq. The spinal fluid was clear with an opening pressure of 115 mm., a closing pressure of 110 mm., and a white count of 59 with 84 per cent lymphocytes. The spinal fluid sugar was 94.4 mg. per cent; chloride, 760 mg. per cent; and total protein, 45.5 mg. per cent. The Kolmer titer was 64 units, and the colloidal gold curve was 5555332110. A urine culture grew Aerobacter aerogenes and enterococci resistant to all agents. An electroencephalogram was completely dominated by rhythmical triphasic spike complexes occurring in long bursts with some rightsided preponderance (Figure 1).

The patient's temperature remained normal throughout his hospitalization. His pulse rate promptly dropped to 60 per minute; his blood pressure remained at 110/70. Daily fluid intake varied from 1,400 to 3,050 ml., and the daily output varied from 350 ml. to 4,000 ml.

An indwelling catheter was inserted, and he was given prophylactic penicillin throughout his entire hospitalization. Almost all of his intake was by intravenous infusions of 5 per cent glucose, with hydrocortisone being added to the earlier infusions. He was given diphenylhydantoin sodium (Dilantin) in daily doses of 300 mg. rectally, and 300-400 mg. of phenobarbital sodium, intramuscularly. On September 26 he was alert enough to obey commands and speak a few words. On September 28 he could swallow, but not well enough to allow adequate intake of food or fluids. The seizures continued until September 30 when he was given 9 ml. of paraldehyde, rectally. His condition began to deteriorate, and he again became unresponsive on October 3. On October 5 his respiratory rate became progressively slower and he died.

Edited by Jesse D. Rising, M.D., and Mahlon Delp, M.D., from recordings of the conference participated in by the departments of medicine, pediatrics, surgery, radiology and pathology of the University of Kansas Medical Center, as well as by the third and fourth year classes of students.

Dr. Mahlon Delp (moderator): Are there any questions?

Gerald Oehler (fourth year medical student):* What was meant in the history by "his usual state of health"?

Dr. Robert Hudson (instructor in medicine): He had seizures, and he probably spent a lot of time in bed.

Ronald Kloster (student): Was there any evidence of trauma before the onset of his illness?

Dr. Hudson: No, there was not.

Mark Devine (student): Did he become completely unconscious during his previous seizures?

Dr. Hudson: No.

Asher Dahl (student): How much hydrocortisone did he receive during his hospitalization?

Dr. Hudson: He was given three doses of 50 mg. each over a three-day period, a total of 150 mg. of hydrocortisone.

Mr. Kloster: When did the syphilis develop?

Dr. Hudson: We have no information on that.

Mr. Devine: Was he comatose on admission, or was he just unresponsive?

Dr. Hudson: He was semi-comatose, responding to painful stimuli but unable to rouse himself to speak.

Gordon Cowles (student): Was he paralyzed at any time?

Dr. Hudson: Not to my knowledge.

Mr. Devine: How much paraldehyde did he receive?

Dr. Hudson: He received three doses of 3 ml. each.

Ernest Gilbertson (student): Was he able to wrinkle his forehead?

Dr. Hudson: Yes.

Ned Noll (student): Was there any history of headaches or vomiting?

Dr. Hudson: No.

Mr. Devine: Were the fundi adequately visualized?

Dr. Hudson: Yes.

Mr. Devine: Was there papilledema?

Dr. Hudson: No.

Mr. Noll: Did he receive any intravenous medication?

Dr. Hudson: He was given amobarbital sodium on the night of admission.

Mr. Cowles: Did he have pulmonary edema?

Dr. Hudson: No.

Mr. Gilbertson: Was Babinski's sign present?

Dr. Hudson: No, it was not.

Mr. Cowles: Did he have right-sided seizures before admission and left-sided ones afterwards?

Dr. Hudson: Yes.

Dr. Delp: If there are no more questions, we will now see the electrocardiogram.

Mr. Oehler: A tracing taken on September 25, 1957, shows a regular sinus rhythm with a rate of approximately 100 per minute. There is low voltage throughout. There are sporadic irregularities throughout the tracing, and I interpret them as the result of the clonic convulsions; otherwise, I see no abnormalities in this tracing.

Dr. Delp: We will now see the x-rays.

Mr. Gilbertson: A chest film taken on the day of admission shows general decreased density over both lung fields. The patient apparently was rotated to the left, and there is a scoliosis to the right. The ascending aorta is prominent and tortuous. The diaphragm on the left side is elevated, and there is gas in the bowel pushing it up. This could be caused by paralysis of the phrenic nerve to the left diaphragm.

A PA and lateral film of the skull shows some calcification in the occipital area and in the midline which I interpret as calcification in the falx. There is no erosion of the tables of the skull.

Dr. Delp: Mr. Dahl will now give his differential diagnosis.

Differential Diagnosis

Mr. Dahl: This 79-year-old man entered this hospital with a history of recurrent left-sided seizures for several years and a transient right-sided

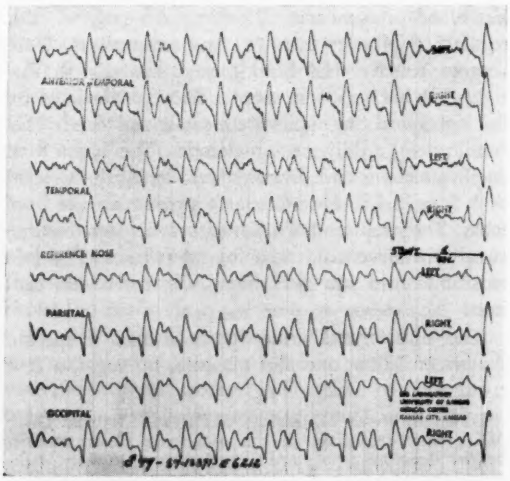

Figure 1. Electroencephalogram taken September 27, 1957.

*Though a medical student at the time of this conference in January, 1958, he, like the others referred to as students, received the M.D. degree in June, 1958.

seizure two days before admission. When examined here he was unresponsive, emaciated and dehydrated. Spinal fluid and serum tests were positive for syphilis.

Basing my differential diagnosis on causes of coma, I shall first rule out metabolic disturbances and intoxication such as heavy metals, alcoholism, drugs, and botulism because of the lack of history, signs, symptoms, and laboratory findings. It is difficult to dismiss trauma because of the history of recurrent seizures, but there was no history of trauma. Furthermore, the bilateral lesions cannot be explained on the basis of trauma or of a subdural hematoma caused by trauma.

Idiopathic epilepsy is not an attractive diagnosis because only ten per cent of these cases occur after the age of 30, and Jacksonian seizures are uncommon in this type of epilepsy.

Primary cardiovascular disease can be dismissed as a possibility because there was no indication of fibrillation or myocardial infarction. I shall not consider cerebral hemorrhage as a primary diagnosis because there was no hypertension and because the cerebrospinal fluid was clear. Approximately 85 per cent of patients with cerebral hemorrhage have bloody or xanthochromic spinal fluid.

Thrombosis secondary to arteriosclerosis should be considered as a cause of the recurrent seizures, but I shall rule it out because of the bilateral signs. Primary and secondary tumors of the central nervous system must be considered because seizures are often the first signs of tumors that appear after the age of 35. Secondary tumors can be ruled out because of the lack of a primary site, and I dismiss primary tumors of the central nervous system because the spinal fluid pressure and the protein were normal, and because there was no papilledema. X-rays are helpful in 66 per cent of these cases, but our films were not contributory and arteriograms could not be done because of the patient's condition. Furthermore, bilateral lesions are difficult to explain by single tumor.

Diffuse encephalitis can be ruled out because, although convulsions occur in these cases, there were no other signs or symptoms of this entity. Meningitis is unlikely because there were no appropriate spinal fluid findings.

Cryptococcal fungi must be considered here, but meningeal irritation occurs in this disease, and there is usually an expanding mass in the brain. There was no indication that our patient had meningeal irritation, and there was no papilledema or increased pressure.

Intercranial abscesses are rare without a primary source such as middle ear infection and intrathoracic suppuration, and there was no evidence of either of these.

Finally, I believe our patient had neurosyphilis. He had a history of recurring left-sided seizures described as an abrupt cessation of activity for several moments, an expressionless staring, a shaking motion beginning in the left hand and extending to the left foot and then throughout all of the body, lasting for several hours and followed by sleep. This is a typical description of a Jacksonian seizure. Lesions which cause seizures such as his are found in the right motor cortex or in the premotor area. It has been stated that arteriosclerosis could present this picture, and it also could have been due to syphilis. Neurosyphilis is a proliferation of the vascular intima and infiltration of the media and adventitia by inflammatory process. This produces a narrowing of the vessels by thrombosis and may lead to infarction of the brain. Sixteen per cent of patients with this type of lesion have seizures during the primary attack. Lissauer's focal atrophy also causes seizures and may be another possibility. Several days before admission our patient had a transient apoplectic right-sided seizure which may have been caused by a thrombosis in the left motor or pre-motor area. Syphilitic apoplexy is often transitory.

After admission the seizures were again predominantly on the left side. The head and eyes were turned to the right perhaps as the result of an irritative lesion on the left side of the brain causing the acute right-sided seizures which occurred just before admission.

There was ironing out of the left nasolabial folds which may have been caused by luetic involvement of the seventh cranial nerve. The cerebrospinal fluid contained 59 white cells, and the protein was only slightly elevated. The spinal fluid serology was positive, and the gold curve was of the paretic type. I consider these findings to be indicative of active neurosyphilis.

Aneurysm of the aorta is a common finding in cases of syphilis of the central nervous system, but I do not believe that one can be diagnosed in this instance.

Our patient was advanced in age, emaciated, dehydrated, and unresponsive. The decubiti probably indicated that he had been bedridden for several days. Decubiti may, however, occur rapidly in patients with poor health, even within 24 hours. I believe that he was in a terminal state of neurosyphilis. The common causes of death in this disease are convulsive seizures, intercurrent infection, and respiratory failure. There is no evidence for the first two mentioned, but respiratory failure may

have been caused by a late involvement of the respiratory center. A paralyzed diaphragm may also have contributed to respiratory embarrassment.

The steroids which he received may have increased the risk of thrombo-embolism causing some final thrombosis of the respiratory area and resulting in death.

Clinical Discussion

Dr. Delp: Thank you. What is your diagnosis, Mr. Devine?

Mr. Devine: Neurosyphilis with parenchymal and cerebrovascular involvement. The cerebrovascular symptoms with endarteritis could have caused thrombosis or ischemia and explained the convulsive episodes.

Dr. Delp: Mr. Kloster?

Mr. Kloster: I agree with that diagnosis.

Dr. Delp: Mr. Noll?

Mr. Noll: I agree, but I believe the primary involvement was vascular.

Dr. Delp: Mr. Devine, will you explain the background for the seizures?

Mr. Devine: It has been reported that a person who has had a stroke at about the age of our patient could recover completely and then have a small infarcted area on the right side. These seizures may also have been caused by cerebrovascular insufficiency.

Dr. Delp: Mr. Kloster?

Mr. Kloster: The seizures may have been caused by thrombosis secondary to arteriosclerosis, but endarteritis would probably best explain a necrosis and thrombosis of the brain.

Dr. Delp: Mr. Oehler?

Mr. Oehler: There might have been focal atrophy.

Dr. Delp: What evidence do you have for that diagnosis?

Mr. Oehler: Focal atrophy gives rise to focal seizures.

Dr. Delp: Mr. Gilbertson, what do you believe was the cause of his seizures?

Mr. Gilbertson: I believe they were caused primarily by arteritis.

Dr. Delp: Mr. Dahl, the patient apparently had syphilis for a long time. Why did it suddenly become so much worse?

Mr. Dahl: A progression of paresis may halt for as long as ten years, then, for unknown reasons, it becomes active again.

Dr. Delp: What is your opinion of the aorta?

Mr. Dahl: It was tortuous, but I cannot diagnose an aneurysm.

Dr. Delp: Mr. Kloster, did he have an aneurysm?

Mr. Kloster: I believe the patient was rotated in order to bring the aorta to the right side of the mediastinum, but it was not large enough on that side to make a diagnosis of aneurysm.

Dr. Delp: Dr. Tice, what is your opinion?

Dr. Galen Tice (radiologist): Some of the aorta was tortuous, but I believe it was negative.

Dr. Delp: What was the final cause of the patient's death, Mr. Noll?

Mr. Noll: A relatively high incidence of small thromboses with endarteritis occurs in meningovascular syphilis, the most common site being the cortex and the brain stem. I believe there was thrombosis secondary to endarteritis.

Dr. Delp: Could the medication have contributed to his condition?

Mr. Oehler: It has been reported that barbiturates may increase the activity of neurosyphilis.

Dr. Delp: May we have your comments, Dr. Steegmann?

Dr. Theodore Steegmann (neurologist): My diagnosis at the time of admission was epilepsia partialis continua[1] or, in other words, a continual-acting form of seizure of the clonic type. An interesting feature of these seizures is that the discharge lesion, at a regular rhythmic rate, was confined to the arm, leg, and trunk muscle on the same side, but did not involve the face. In view of the fact that the face and arm area are associated in the cortex, it is remarkable that he had no facial twitchings.

When I first saw the patient I suspected that he might have a syphilitic brain disease, and after receiving the spinal fluid and serology reports I was certain that we were dealing with a case of dementia paralytica which is a diffuse, non-suppurative form of encephalitis confined to gray matter. The lesions are more or less universally distributed in the brain, but in this particular case they were probably of the Lissauer's type because of the focal nature of the epileptic discharging lesion. The Lissauer's form of dementia paralytica[2] does not require any associated vascular degeneration, only in the sense that all patients with dementia paralytica have an inflammatory reaction around the capillaries and the small arteries and, in that sense, there may be a disturbance in blood supply. The larger vessels of the brain may not necessarily be involved, and the ordinary type of Heubner's panarteritis usually affects the medium-sized arteries particularly at the base of the brain. This pathological process is usually not noted over the cortical area. A meningovascular process was not seriously considered as the primary cause of the seizures, but it is possible to assume that the process was

old, and that the patient may have had a meningovascular process which produced changes in the vessels that continued to be active. Another type of vascular disease seen in syphilis is a peculiar form of arteritis of the capillaries that resembles the changes seen in lead encephalopathy. It is a relatively rare condition and not usually associated with an active dementia paralytica. I belive this patient died from continuous seizures which produced exhaustion, together with the fact that within the last two days of his life he had large decubiti that could have been a portal for sepsis.

Dr. Delp: Thank you. May we have your comments, Dr. Poser?

Dr. Charles Poser (neurologist): I agree with Dr. Steegmann about the pathology, but I wonder, in retrospect, whether adequate medication would have prolonged his life. There was no evidence of any lung disease. Perhaps he did not metabolize the barbiturates, but I do not believe that he had a particularly high dosage. He did respond on the eighth hospital day, but he died four days later. It is possible that he died of a vascular accident, but it is my belief that he died of exhaustion from status epilepticus.

Dr. Delp: He apparently had slowed respiration for several hours before death. A nurse's note at that time stated that he was breathing progressively more slowly and, although a doctor was called, he found him dead on arrival. Dr. Allen, may we have your opinion as to the cause of death?

Dr. Max Allen (internist): It is unusual in these days to present syphilis at a pathological conference, assuming that syphilis was the cause of death. I am not implying that it was not the cause of death, but only that syphilis is becoming less common as a cause of death. The lack of a history before the patient's terminal event makes it difficult to classify his syphilis.

As pointed out by the student, the presence of decubitus ulcers suggests that he had been quite ill and bedfast for a long time. The members of his family could easily have believed that this was the debility of old age, when perhaps he was gradually becoming paralyzed as a result of central nervous system syphilis of the general paresis type. Spinal fluid findings are sometimes helpful in this regard, and this was a so-called paretic type or early zone curve.

Pathologically speaking, I believe the patient could be expected to have cardiovascular syphilis, that is, vascular lesions and round cell infiltration in the mesaorta and perhaps in the myocardium. There should be gross evidence of cardiovascular syphilis simply from a statistical standpoint. Reduction of motor function of the respiratory muscles and gradual paralysis is probably the most common cause of death in patients with this type of syphilis. The elevated left diaphragm, which I believe was paralyzed, would be a strong point in favor of an aneurysm of the aorta with involvement of the left phrenic nerve. There is no information as to whether the laryngeal nerve was involved, but it usually is involved by an aneurysm.

Finally, I believe that general paresis with meningovascular lesions was the primary classification of the patient's disease. In meningovascular syphilis the administration of penicillin has been followed by Herxheimer reactions and local aggravation of the lesions. A Herxheimer reaction with fever is unusual as the cause of death, and this patient was reported to have had a normal temperature throughout his hospital course. The increase of inflammatory reaction, edema, and round cell infiltration attendant upon a Herxheimer reaction from the penicillin cannot, however, be overlooked as a possible cause of his death.

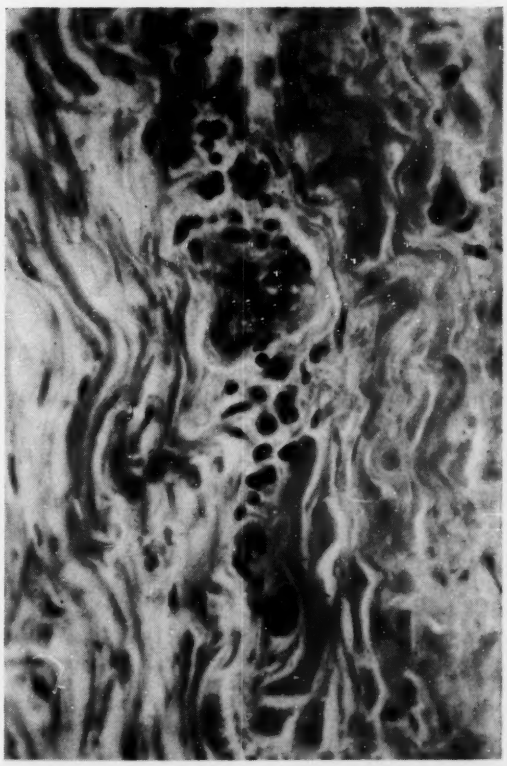

Figure 2. Perivascular infiltrate of lymphocytes and plasma cells in the vasa vasorum. Hemotoxylin and eosin X400.

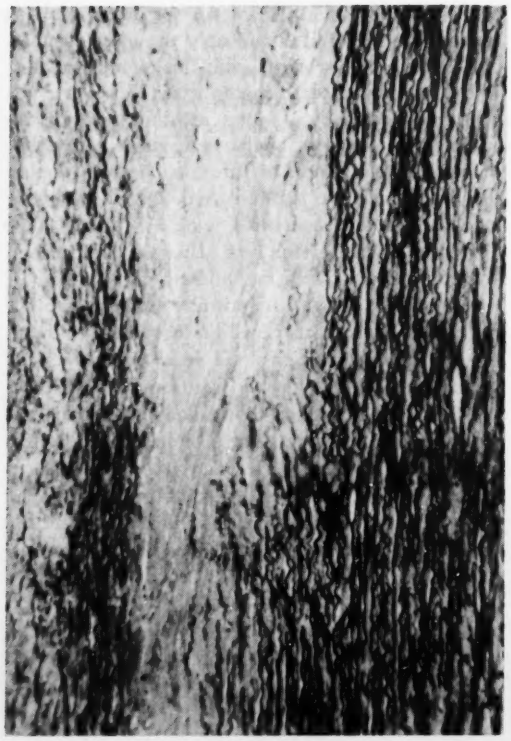

Figure 3. Focal destruction of elastica in aorta. Verhoeff van Gieson X100.

Dr. Delp: This case was obviously selected because patients with active central nervous system syphilis are rare in these days. The high incidence of coincidental system involvement—central nervous system and cardiovascular—with late syphilis is common, and for that reason it should be considered in the differential diagnosis and in the final cause of death.

The tube feeding should also be considered here, not because the pathologist will necessarily make any comment about aspiration pneumonia, but because I have a great fear of tube feeding any patient in the modern hospital. It would be fine if one could tube feed one's patient himself, but it certainly should not be delegated as it is an extremely dangerous procedure. We will now have Dr. Smith's report.

Pathological Report

Dr. O. Dale Smith (pathologist): We shall dismiss a few of the incidental findings first. With relation to the lung, there was moderate diffuse emphysema; in addition, a thrombus was found in one of the smaller pulmonary arteries. An infarction, 2 x 3 cm., was produced which extended out to the pleura leading to a focal pleuritis. The patient did have generalized arteriosclerosis. There was a general reduction in the weight of all of his viscera: liver, 950 gm.; heart, 260 gm.; spleen, 40 gm.; the kidneys, 90 gm. each. Though he was of small stature (weight 120 pounds) the small size of the viscera is undoubtedly a change of senescence.

Now, to focus our attention on the more specific disease leading to this final and dramatic illness, the patient was in the late stage of syphilis. The aorta at its valve measured 9 cm. in circumference (normal range 6 to 7.5 cm.). There was a uniform dilation of the thoracic aorta which was most pronounced in the ascending portion. As is well known, luetic aortitis is almost entirely a disease of the thoracic aorta, and involvement of the more distal portions is increasingly more uncommon. Thus, when faced with changes in the distal aorta, one is probably dealing with the complications of atheroma-

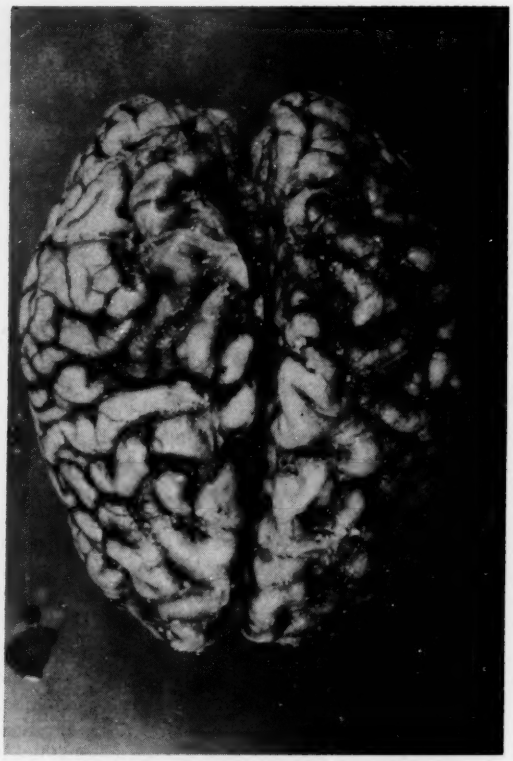

Figure 4. Convexity of cerebrum demonstrating atrophy characterized by narrowed gyri and widened sulci.

Figure 5. Leucocytic infiltration of the leptomeninges. Hemotoxylin and eosin X100.

tous disease, whereas changes in the proximal portions of the aorta are more frequently those of syphilis. The microscopic examination of this organ showed proliferation of the intima. The vasa vasorum penetrated deeply into the media and there was perivascular infiltration of plasma cells and lymphocytes (Figure 2).

An elastic stain of the ascending portion of the aorta showed much loss of elastica, and remaining elastic fibers were frayed and thickened, thus demonstrating the profound effect of the aortitis upon the elastic tissue (Figure 3). These changes of perivascular infiltration of the vasa vasorum and the changes in the elastica are characteristic of syphilis.

The leptomeninges were thickened and slightly opaque, most noticeable over the right frontal area and over the base. There was marked widening of the sulci and narrowing of the gyri leading to an exaggeration of the surface markings of the brain, all of which are indicative of an appreciable diffuse atrophy. In spite of this the brain weighed 1,350 gm., which was within the normal range (Figure 4).

Microscopic study revealed a meningeal involvement characterized by mononuclear leucocytic infiltration. This diffuse change became somewhat more prominent in the depths of the sulci (Figure 5). There was, however, no evidence of the endarteritis that is so frequently seen in meningovascular syphilis; contrastingly, the cerebral cortex showed not only the larger arteries involved by a perivascular lymphocytic and plasma cell infiltrate in the space of Virchow-Robin (Figure 6), but the capillaries were diffusely involved as well.

The atrophy of grey matter was easily apparent, and in addition the neurones showed chromotolysis and other acute degenerative changes.

One of the characteristic findings in classic dementia paralytica or paresis is peculiar proliferation of the microglia forming the rod cells, a finding commonly seen in our case (Figure 7). They characteristically are oriented with the direction of the paths of the nerve fibers.

In the fourth ventricle there were small granulations of the ependyma that consisted of focal areas of subependymal gliosis (Figure 8).

In summary, there was a general atrophy of the

Figure 6. Leucocytic infiltrate around blood vessel in cerebrum. Hemotoxylin and eosin X400.

cerebrum which was probably more pronounced in the right frontal area; the microscopic changes were diffuse. Cerebral atrophy, diffuse meningeal and perivascular infiltration, microglial rod cells, and subependymal gliosis make a pathologic complex highly characteristic of paresis or dementia paralytica.

Mr Devine: Was there an iron stain?

Dr. Smith: Yes. There was some hemosiderin in macrophages surrounding the cerebral vessels, and this is not an uncommon occurrence particularly in brains of older people with arteriosclerotic changes. There was no hemosiderin in the rod cells as has been frequently reported in other cases of paresis.

Dr. Delp: Do you believe our patient probably had this longer than 2½ years?

Dr. Smith: Yes, probably as long as ten years.

Summary

Dr. Delp: The prevention and control of syphilis, even though not complete, is one of the important triumphs of modern medicine. In fact, late manifestations of this disease are so rare as to make teaching their fundamental characteristics next to impossible because of a lack of patient material.

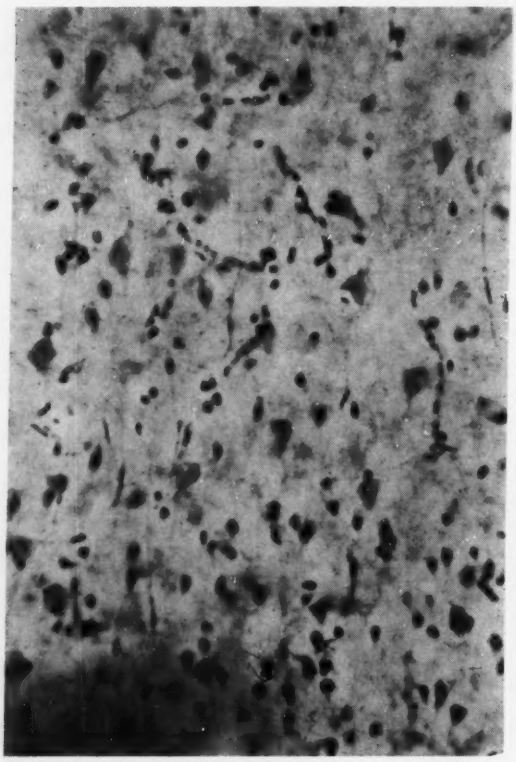

Figure 7. Rod cells in cerebral cortex. Hemotoxylin and eosin X400.

Figure 8. Gliosis of sub-ependyma in fourth ventricle. Hemotoxylin and eosin X100.

The slow, irrevocable, progressive deterioration of this patient is well demonstrated in the visceral atrophy so strikingly demonstrated by the pathologist.

Other features in this case, to be expected, are the concomitant involvement of the aorta and eventual death from the devastating exhaustion of continuous convulsions.

Pathological Anatomical Diagnosis

Primary

Late syphilis; moderate diffuse meningitis; moderate diffuse cerebral atrophy of frontal parietal and temporal lobes of the brain; aortitis with mild dilatation of the ascending arch and the thoracic portions.

Recent pulmonary embolus with infarction of the lower lobe of the right lung.

Acute passive pulmonary congestion.

Decubitus ulcer of skin over sacrum and over right trochanter.

References

1. Wilson, S. A. K., and Bruce, A. N.: Neurology, Ed. 2, Williams and Wilkins Co., Baltimore, 1955, vol. 3, p. 1637.
2. Ibid. Vol. 1, p. 535.

THE KANSAS PRESS LOOKS AT MEDICINE

Editor's Note. In this section the JOURNAL *reproduces editorials relating to medicine which have appeared in the lay press. An effort is made to include both favorable and unfavorable comments, and the Editorial Board in no instance assumes responsibility for the opinions expressed.*

Rural Doctors in Kansas

A field where Kansas has clearly taken the lead is that of providing young medical doctors for rural areas.

Under a vigorous program launched eight years ago by the University of Kansas School of Medicine, this dramatic result has been obtained:

1. All 105 Kansas counties have the services of at least one physician.

2. There is no community with a population of 1,000 or more that is without a doctor.

3. There are many towns of less than 1,000 population that have the services of several physicians.

A major key to this astonishing record has been the medical "preceptor" program of K.U.

As described by Dr. W. Clarke Wescoe, dean of the K.U. Medical School, in a recent article in the *Journal of Medical Education,* the program involves sending out young medical students to selected small towns in Kansas to get a taste of rural medical practice.

This allows "a close personal rapport between the student and the patient and between the student and his teacher (the local resident doctor)." It also "reveals to the student, the gratifications that result from practice in relatively rural areas, thereby encouraging suitable young physicians to establish such practices, which we need desperately."

Some 70 doctors scattered across Kansas cooperate with the university in the role of "preceptors."

This is a Kansas University program that should be even more widely known and appreciated than it is. It is one cogent answer to the "what for" questions that arise as K.U. and other state institutions of higher learning ask for higher budgets year after year from the Legislature.—*Wichita Eagle, December 29, 1958.*

House Calls Still Vital

Although American medical colleges had a record enrollment of 29,473 students in 1957-58, the population has increased too, and the services of doctors still are spread thin.

Bearing this in mind, it is especially reassuring to have a family doctor who will make a house call.

This was brought home to me emphatically during the recent illness of my two daughters. Rushed as he was, our doctor took time out to reassure my anxious wife and prescribe medicine for children who couldn't sleep.

When I was a child this was commonplace, but the practice has become less fashionable lately. The *A.M.A. News* recently reported the remarks of a young physician: "I don't make house calls."

Most of the time, doctors say, the medical problem presented in a house call is not too difficult. This is not always the case, however.

He may find himself in a situation where he must rely on his own knowledge of physiology, chemistry and anatomy, without the aid of x-ray or laboratory.

He must rely on his skill in physical diagnosis and his knowledge until the other aids can be put to use.

There is no question that a patient can be examined more carefully in the office, and patients should go there whenever possible.

An experienced doctor can often appraise the situation in a telephone conversation and make suggestions that will get the patient by until he can get to the office.

But doctors indicate they sometimes are left with misgivings that they may have overlooked something. This is part of the responsibility physicians assume that makes them dear to the community.

The house call, as troublesome as it may be to busy doctors, is an institution that bolsters confidence in medicine.—*Ted Blankenship in Hutchinson News, December 17, 1958.*

No Incentive

Doctors and dentists who practice under England's health insurance plan are looking forward to the new year with some degree of pleasure. After January 1 they will receive a four per cent increase in income.

This will not, however, put them in the luxury class because the average net income of general practitioners still will be only $6,788 a year.

This explains, to some extent, why Britain's medical men are not very enthusiastic about the health insurance plan. It might explain also why students applying for medical training at state expense are not up to the standard of other years.—*El Dorado Times, December 2, 1958.*

Economics

Present Status of United States Savings Bonds

LORIN E. SIBLEY, *Topeka*

What would you do with 24 million dollars?

While few Kansans must answer that question as individuals during 1959, Kansans as a whole must decide how best to handle that sum of money during 1959, for that is the estimated worth of Series F and Series G United States savings bonds, owned by Kansans and Kansas organizations, which will mature during the year.

The 24 million dollar figure is the estimated Kansas share of the close to two billion dollars in Series F and G savings bonds which will mature in 1959 throughout the nation.

Since many doctors as individuals own Series F and G savings bonds, and since they are often asked to serve on the boards of institutions and associations whose investment portfolios include F and G bonds, many will be called upon to help with the answer to the 24 million dollar question in Kansas.

Nor will the necessity for considering this question end with 1959, for a like amount will again become available in 1960 through the maturing F's and G's. In fact, the question will continue to recur annually until 1964.

In 1964 the question will become handling J and K bonds which replaced the F and G in 1952. The J and K maturities will be complete in 1969.

The first suggestion to be made is to point out that interest is discontinued immediately when a Series F or G bond matures.

While the Series E bond re-invests itself at maturity and continues to increase in value if not presented for payment, F and G bonds must be redeemed and re-invested if earnings are to be continued. One might say that the popular re-investment feature of the Series E bond does not apply to any other series.

Now that we have made sure that the maturing F and G bond will be presented for payment when it matures, what shall we do with that 24 million dollars that Kansans will want to put back to work in 1959?

"Can the investment be continued in savings bonds?" would be a natural first query.

The answer is "Yes" for all individuals, associations, corporations, partnerships, organizations, and institutions with the exception of commercial banks. Maturing F and G bonds owned by either individuals or by others with the exception of commercial banks may be re-invested in either Series E or Series H bonds.

There are some general considerations which should be followed with points related specifically to either the Series E or the Series H bonds.

When the Series E and Series H bond were revised in early 1957, a new purchase limit of $10,000 maturity value was fixed for each series. This limit was retained when Series E and Series H were made available for purchase by other than individuals.

The $10,000 limit closed the door on re-investment for many individuals as well as institutions if annual purchase had already exceeded the ceiling figure. This condition became widely known and led to the impression that one could continue investments in savings bonds only in a limited number of cases.

However, regulations announced in the last half of 1958 have removed the limit restriction as it applied to both individuals and institutions who wished to use the Series E and Series H as an investment outlet for maturing F and G bonds.

"Can the investment be continued in savings bonds?"

Again, the answer is "Yes." Maturing Series F and G bonds can now be exchanged for Series E or Series H bonds, or both, without limitation on annual purchases. New money can be invested to the limit of $10,000 per year (maturity value), and in addition the proceeds of the maturing bonds can be re-invested irrespective of the new-money investment programs.

Since Series G bonds provide current income through payment of interest twice annually, and since amounts invested in Series G bonds exceeded investments in Series F bonds, current income appears to have been an important consideration in original investments and will likely continue to be so in re-investment.

The Series H bond offers that current income provision with interest payments being made twice each year by treasury check.

Following are several points of comparison between the Series H and the Series G bonds:

Interest rate:

Mr. Sibley is state director, Kansas office of the Savings Bonds Division of the United States Treasury Department, 711 Quincy Street, Topeka.

Series H—3.25% if held to maturity
Series G—2.53% if held to maturity

Redemption:
Series H—On the first day of any calendar month after six months from issue date and on one month's written notice.
Series G—On the first day of any calendar month following one month's written notice.

Redemption value:
Series H—Par value
Series G—Adjusted values each six months, but reaching par only at maturity.

Bond life:
Series H—10 years
Series G—12 years

Whether for individual re-investment or for re-investment by other than individuals, the four comparisons point out important and attractive advantages coming to the bond owner through exchange of matured F and G bonds for the new Series H bond. The comparisons also highlight some of the features which make the H bond an attractive new-money investment instrument.

Although the Series H bond might appear to appeal to most F and G holders, the Series E as an exchange possibility should be given consideration.

Perhaps more people understand the Series E bond than understand any other investment or saving security available to the American public. In fact, it is the Series E bond that forms the basis for the estimate that 40 million Americans now own one or more savings bonds—and that means one person in every four, or more than 500,000 Kansans alone.

For 17 years, Americans have known the Series E bond as that bond which returns "four dollars for every three invested." The Series E bond earns at the rate of 3.25 per cent annum if held to maturity; it may be redeemed any time after two months from date of issue without advance notice, generally at the same place from which it was issued; it matures in 8 years and 11 months.

Both the Series E and the Series H bond share "enduring virtues" such as:

Guaranteed redemption values, not subject to the risks of market fluctuations;

Absolutely indestructible, since the treasury will replace without cost to the holder any bond lost, stolen, or destroyed;

Backed by the faith and credit of the United States government;

Redeemable at a multitude of outlets throughout the nation.

Providing for the exchange of maturing Series F and G bonds for either Series E or Series H savings bonds without regard to the annual purchase limits makes it possible for both individual and non-individual investors to continue the savings bonds investment programs established 12 years ago without interfering with current saving and investing programs.

No attempt has been made to relate the suggestions to specific cases since points considered have been the general bases from which savings bonds investment programs can be continued.

Your banker continues to be a leading savings bonds exponent. Your discussion of the application of the general exchange and investment provisions with him will likely chart the best course to follow.

Research Professorship at K.U.M.C.

A research professorship in human reproduction at the University of Kansas School of Medicine was announced last month by Dr. W. Clarke Wescoe, dean. Dr. Thomas H. Clewe was named to the post.

Dr. Clewe came to Kansas from Yale University's Department of Anatomy. He received his medical degree from Stanford University and later was a research assistant in physics, pharmacology, and obstetrics and gynecology there. He went to Yale in 1956.

A laboratory has been set up in Kansas City for his work, the study of the physiology of reproduction and application of tissue culture techniques to tubal function and fertilization.

"The establishment of this professorship will put us on the road toward learning as much about human reproduction as we know about reproduction in lower species and in plants," said Dr. Wescoe. "It strengthens the position of the University of Kansas in the study of mammalian reproduction and genetics with the aim of becoming an outstanding research center in these fields."

Arthur Kemp, Ph.D., professor of economics at Claremont Men's College and Claremont Graduate School, Claremont, California, has been appointed director of the American Medical Association Bureau of Medical Economics. He succeeds Frank G. Dickinson, Ph.D., who is retiring.

Dr. Kemp has taught economics for 18 years, at New York University before he went to California. Since 1943 he has assisted Former President Herbert Hoover in the preparation of books, articles, and addresses.

PHYSICIANS' ACTIVITIES

Dr. James J. Hamilton, recently released from duty with the Navy, has begun practice in Wakeeney. He is a 1955 graduate of the University of Kansas School of Medicine.

Plans to reopen an office in Chetopa have been announced by **Dr. Elmer D. Peffly,** who practiced there before moving to Hoisington in 1958.

Dr. Clement C. Vickery, of the Hertzler Clinic, Halstead, recently became a diplomate of the American Board of Neurology and Psychiatry.

The Eastern Star in Jennings paid tribute to **Dr. L. Albert Jeffries** last month on the anniversary of his 50th year of membership in the order. He began practice in Jennings about 51 years ago and still maintains an office there.

Dr. James E. Chipps, Dr. Arthur W. Fegtly, and **Dr. Erastus S. Edgerton,** all of Wichita, were pictured in the *Wichita Eagle* recently when they became honorary members of the staff of St. Joseph Hospital there. Others receiving honor certificates are: **Dr. Clyde Beal** of Clearwater, **Dr. M. E. Brownell, Dr. Robert Howard, Dr. Robert H. Maxwell, Dr. C. D. Mills, Dr. Charles D. McKeown,** and **Dr. Harold O. Williams.**

Dr. Philip W. Morgan, Emporia, addressed the Kiwanis Club in Iola last month on the subject of heart disease and conducted a question and answer session afterward.

Dr. Robert E. Speirs and **Dr. E. Burke Scagnelli,** Dodge City, are two physicians serving with six business leaders on an advisory board for St. Anthony Hospital, Dodge City.

A Wakeeney physician, **Dr. Ray Stutzman,** recently entered military service and is taking basic training at Fort Sam Houston, Texas.

Dr. Andre Baude, Topeka, has been appointed to a committee on chest roentgenology by the American College of Chest Physicians.

Two anniversaries were celebrated by **Dr. Horace B. Vallette,** Beloit, recently. One marked the completion of 50 years in the practice of medicine and the second recognized his golden wedding anniversary.

Dr. Arthur P. Klotz, associate professor of medicine at the University of Kansas Medical Center, presented a paper, "The Effect of Ethionine and Bromobenzine Liver Damage on Diuresis in the Rat," at a recent meeting of the American Association for the Study of Liver Diseases in Chicago. He also spoke on "Peptic Ulcer" at a postgraduate program presented at Louisiana State University in New Orleans.

Dr. Karl Menninger, Topeka, addressed the staff and residents of St. Vincent's Hospital, New York City, recently and stopped in Chicago to speak on "Human Needs in Urban Society" at a meeting of the American Construction Industry Association.

Dr. Paul C. Laybourne, of the University of Kansas Medical Center, was speaker at the annual meeting of the Child Guidance Center in St. Joseph, Missouri, last month. He discussed psychiatric problems in children.

Dr. Donald W. Selzer, who formerly practiced at the Ball Clinic in Manhattan, recently completed four and a half years fellowship in surgery at the Mayo Clinic in Rochester, Minnesota, and is now practicing in Topeka in association with **Dr. Charles S. Joss.**

Plans to move from Claflin to Hoisington have been announced by **Dr. Robert Shaw,** who has been practicing in Claflin for four years.

Dr. Edward D. Greenwood, Topeka, president of the American Association for Children's Residential Centers, attended a meeting of the group in Chicago recently and served as leader of a discussion on residential trends.

A Kansas City physician, **Dr. C. Omer West,** was one of the speakers at a meeting of the Franklin County Teachers' Association in Ottawa on January 12. He told of his trip to Africa and showed pictures of the areas he visited.

Dr. Kenneth E. Bickford, who has practiced in Cherryvale during the past year, has moved to Wakeeney and has opened an office there.

A feature story about **Dr. C. C. Nesselrode,** Kansas City, was published in the January 4 issue of the *Kansas City Kansan*. The story reviewed Dr. Nesselrode's professional and civic accomplishments.

A physician from Paris, **Dr. Edmond de St. Felix,** has been appointed clinical director of Larned State Hospital, according to an announcement made recently by **Dr. J. T. Naramore,** superintendent.

Dr. Edward D. Greenwood, of the Menninger Foundation, Topeka, has been named by President Eisenhower as vice-chairman of the national committee for the 1960 White House Conference on Children and Youth.

A citation from the University of Kansas School of Medicine was presented recently to **Dr. John D. Hunter** of Fort Scott. Singled out as one of 240 Kansas physicians still in practice after 50 years of service, Dr. Hunter, who will complete 54 years of medicine in April, will have the privilege of attending all postgraduate courses offered by the school as a guest.

DEATH NOTICES

William S. Swart, M.D.

Dr. W. S. Swart, 83, who had practiced more than 50 years before his retirement a few years ago, died at his home in Girard on December 19. He was an active member of the Crawford County Medical Society. A graduate of Barnes Medical College, St. Louis, in 1899, he spent his entire professional life in Girard.

William Preston Sterrett, M.D.

A 100-year-old physician who was a charter member of the Wyandotte County Medical Society and had been an honorary member since 1936, Dr. W. P. Sterrett, died at Humansville, Missouri, on December 21. He began practice in Kansas City immedately after graduation from Ensworth Medical College, St. Joseph, Missouri, and moved to Humansville 24 years ago. During his days of practice he served also as a professor of internal medicine at the old Kansas City College of Physicians and Surgeons.

William Wallace Reed, M.D.

Dr. W. W. Reed, 78, an active member of the Shawnee County Medical Society, died at his home in Topeka on December 22. A graduate of Kansas Medical College, Topeka, in 1905, he began practice in Blue Rapids and moved to Topeka after serving in the Army Medical Corps during World War I.

He had served a term as president of the Shawnee County Medical Society and several terms as state supervising opthalmologist. He was a diplomate of the American Board of Otolaryngology, a fellow of the American College of Surgeons, and a member of the American Academy of Ophthalmology and Otolaryngology.

Edgar Sylvester Haworth, M.D.

A physician who had practiced in Wichita for 38 years, Dr. E. S. Haworth, 78, died at a Wichita hospital on January 9 after suffering a heart attack. A graduate of Southwest School of Medicine and Hospital, Kansas City, in 1907, he began practice in Viola and later moved to Wichita. He was a member of the Sedgwick County Medical Society.

Arthur Whitaker, M.D.

Dr. Arthur Whitaker, Atchison surgeon, died on January 14 after an illness of several months. He was 54 years of age. Dr. Whitaker received his education at the University of Kansas, completing medical school in 1930. He began practice in Nortonville on completion of internship in St. Louis and moved to Atchison several years later. He was an active member of the Atchison County Medical Society and had served a term as president of the group.

Dr. L. J. Ruzicka, Concordia, has submitted his resignation as city superintendent of public health.

Bethany Hospital, Kansas City, announces the appointment of **Dr. John E. Johnson** to its pathology staff. Dr. Johnson, who was recently elected coroner of Johnson County, has been on the staff at Research Hospital, Kansas City, Missouri, during the past six years.

Dr. Walter Stephenson, Norton, was recently appointed coroner of Norton County and took office on January 12.

"Toward the Solution of the Cancer Problem" was the subject discussed by **Dr. D. Cramer Reed,** Wichita, at a meeting of the Rotary Club there in December.

The *Newton Kansan* on January 12 paid tribute to **Dr. Frances Ann Allen,** of the Bethel Clinic, as Newton's "Woman of the Year" for 1958.

Dr. Kenneth J. Gleason, Independence, participated in a question and answer program at the January meeting of the Allen County Medical Assistants' Society in Iola.

A talk on cancer was given by **Dr. Marjorie Sirridge,** Kansas City, at a meeting of the Argentine Parent-Teacher Association on January 13.

Dr. Howard V. Bair, superintendent of the Parsons State Hospital, has been named one of three United States members of the program committee for the First International Congress for Retarded Children. The congress will be held in Portland, Maine, late in the summer of 1959.

Dr. George L. Thorpe, Wichita, is the author of an article, "Overweight? Try Eating," published in the January issue of *Woman's Day,* a national magazine of wide distribution.

Dr. H. D. Doubek, Belleville, was recently elected coroner of Republic County.

In 1957, 7,500 pedestrians were killed by autos in the United States.

COUNTY SOCIETIES

Dr. Robert Denton, assistant professor of research anesthesia at the University of Pennsylvania, was speaker at a meeting of the Sedgwick County Medical Society held in Wichita on January 6. His subject was "Practical Aspects of Inhalation Therapy in the Control of Respiratory Disorders." Dr. Norton L. Francis, president, and other officers elected several months ago were installed.

Officers of the Wyandotte County Medical Society for 1959, elected at a meeting held in Kansas City recently, are: president, Dr. Matthew R. Fitzpatrick; vice-president, Dr. William W. Abrams; secretary, Dr. Wray Enders; treasurer, Dr. Gretchen Guernsey; member of board of censors for three-year term, Dr. Lee E. Rook.

Dr. Howard Williams was speaker at a meeting of the Shawnee County Medical Society held in Topeka on January 5. His subject was "Sadistic Fathers."

Dr. Melvin L. Masterson was named president of the Miami County Medical Society at a meeting held in Paola late in December. Dr. Rex C. Stanley was named to serve as vice-president, and Dr. Robert E. Banks was chosen to become secretary-treasurer.

"Public Health Problems in Civil Defense" was the subject discussed by Lt. Col. Ingalls H. Simmons, M.C., of the Army Medical Service School, San Antonio, before the Wyandotte County Medical Society at a meeting held in Kansas City on January 20. A business session followed.

A meeting of the Anderson County Medical Society was held at the Bell Restaurant, Garnett, on January 12. Dr. Bert Harned, Kansas City, was guest speaker.

Two physicians from Oklahoma City, Dr. Edward R. Munnell and Dr. Charles Cathey, spoke on "Current Diagnostic Aids and Surgical Management of Heart Disease" at a meeting of the Cowley County Medical Society at the Winfield Country Club on January 15.

Members of the Saline County Medical Society were hosts at a meeting of the Golden Belt Medical

Society held at Holiday Inn, Salina, on January 8. Dr. Alfred R. Sugg, Ada, Oklahoma, was speaker at the scientific program.

At a recent meeting of the Republic County Medical Society, the following officers were elected: president, Dr. Paul L. Beiderwell; vice-president, Dr. Perry U. Hunsley, and secretary-treasurer, Dr. Herbert D. Doubek, all of Belleville.

ANNOUNCEMENTS

Fifteenth congress and graduate instructional course in allergy, sponsored by American College of Allergists, Mark Hopkins Hotel, San Francisco, March 15-20. Write the College, 2049 Broadway, Boulder, Colorado.

Annual meeting, American College of Obstetricians and Gynecologists, Atlantic City, April 6-8. Write the College, P. O. Box 749, Chicago.

Thirteenth general assembly, World Medical Association, Montreal, Canada, September 7-12, 1959. Canadian Medical Association, host. Write Secretary General, World Medical Association, 10 Columbus Circle, New York 19, New York.

Refresher course for medical librarians, sponsored by Medical Library Association, King Edward Sheraton Hotel, Toronto, Canada, June 13, 1959. Advance registration required. Write Wesley Draper, Chairman, 1313 Bedford Avenue, Brooklyn 16, New York.

American Board of Obstetrics and Gynecology announces August 1, 1959, as deadline for receipt of new and reopened applications for 1960 examinations. Write the Board, 2105 Adelbert Road, Cleveland 6, Ohio.

Thirteenth International Congress on Occupational Health, New York City, July 25-29, 1960, first such congress in United States. Scientific Program Committee invites submission of papers for presentation. Write Dr. Irving R. Tabershaw, 375 Park Avenue, New York City.

Awards of $500 and $300 for manuscripts offered by Division of Obstetrics and Gynecology, International College of Surgeons. Entries accepted from interns, residents, graduate students, and teachers in the specialty. Maximum of 5,000 words. Deadline June 1, 1959. Write Dr. Harvey A. Gollin, 55 East Washington Street, Chicago 2, Illinois.

New York University Postgraduate Medical School, 559 First Avenue, New York 16, New York, announces course in surgery of the hand, March 16-21; refresher course in allergy, March 23-25; seminar in internal medicine, Aprii 6 through May 29.

Fourth annual meeting of Southwestern Society of Nuclear Medicine, Roosevelt Hotel, New Orleans, March 14-15. Write Dr. Samuel B. Nadler, 1520 Louisiana Avenue, New Orleans 15, Louisiana.

Postgraduate conference at Creighton University School of Medicine, Omaha, April 14-16, 1959. April 14 devoted to surgery, April 15 to obstetrics and gynecology, April 16 to both.

Award contest sponsored by American College of Gastroenterology announced. Entries accepted until June 1, 1959, by Research Committee, 33 West 60th Street, New York 23, New York. Essays on research in gastroenterology or allied field, clinical or basic science.

Appropriation for Heart Surgery Sought

The new Congress will be urged to approve as quickly as possible a supplemental appropriation of $1,500,000 to replenish funds for lifesaving heart surgery in children, Secretary of Health, Education, and Welfare Arthur S. Flemming announced today.

The high cost of surgery in children suffering from congenital heart conditions and increasing demands for such surgery have exhausted funds available to support state programs for the current fiscal year. The number of children with congenital heart disease who receive medical services under state crippled children's programs has increased from 2,200 in 1950 to 10,000 in 1957.

Under the overall state-federal medical care program for crippled children, states are required to provide one dollar for each two dollars provided by the federal government. If the proposed appropriation is approved, it would mean that there would be an additional $2,250,000 for treatment of heart defects in the young.

New surgical techniques, particularly "open heart" surgery, are too costly for most families to handle unaided. The immediate cost of the average open heart operation is about $2,500. This includes all hospital and medical care costs, diagnostic preparation, and the use of a number of expensive machines.

A.M.E.F. Contributions Increase

Contributions to the American Medical Educational Foundation in 1958, a total of $1,133,654, established new records, both in amount and in number of donors. The 15 per cent jump in income over 1957's total of $984,884 is certain to be matched by an equally large increase in the number of givers, although the final count of contributors is not, as yet, available.

The month of December also established a record for a 30-day period with over $540,000 being received.

Grants to medical schools of the nation were made at special ceremonies on February 9 during the Congress on Medical Education and Licensure.

Cancer Conference in Wichita

A theme, "Viruses and Chemotherapy in Cancer," has been chosen for the 11th annual Midwest Cancer Conference to be held at the Broadview Hotel, Wichita, March 26-27.

The program for the event is outlined as follows:

Thursday, March 26

Introduction ..... A. M. Cherner, M.D., Hays
Welcome ..... Larry E. Vin Zant, M.D., Wichita
The Natural History of Cancer ..... Stanley P. Reimann, M.D., Philadelphia
Ultramicroscopic Cell Structure and Its Relation to the Study of Cancer ... A. F. Howatson, Ph.D., Toronto
Clinicopathological Conference ..... John F. Christianson, M.D., Kansas City, Moderator
Ultramicroscopic Study of Viruses and Their Possible Relationship to Cancer ..... A. F. Howatson, Ph.D., Toronto
Studies on the Etiology of Human Leukemia ..... Clifton D. Howe, M.D., Houston
Current Concepts of the Etiology of Mouse Leukemia .... Charlotte Friend, Ph.D., New York City
The Treatment of Cancer in Children ..... Ian Macdonald, M.D., Los Angeles

Friday, March 27

Metabolic Disturbances in the Cancer Patient ..... Alfred Gellhorn, M.D., New York City
The Role of Endocrines in Human Neoplasm ..... Edward A. Gall, M.D., Cincinnati
Radiological Problems in Cancer Cases—Panel Discussion .... Karl A. Youngstrom, M.D., Kansas City, Moderator
Developments in Radiation for Cancer Treatment .... J. W. J. Carpender, M.D., Chicago
Management of Patient with Advanced Cancer ..... Ian Macdonald, M.D., Los Angeles
Biopsy Problems for the Practitioner—Panel Discussion ..... Francis A. Mantz, Jr., M.D., Kansas City, Moderator

Speaker for the dinner meeting on Thursday evening will be Sir Samuel Daniel of London, associate medical historican of the London Postgraduate Medical School. His subject will be "Some Intriguing Aspects of Medical Anthropology."

There will be a luncheon session each day. On Thursday Dr. Clifton D. Howe, Houston, will speak on "Annual Physical Examinations for Physicians," and on Friday there will be a "Curbstone Consultation" with all members of the faculty answering questions.

Kansans who will preside at the different sessions include: Dr. David S. Ruhe, Kansas City; Dr. Ralph Metcalf, El Dorado; Dr. Harvey Tretbar, Wichita; Dr. Leo Cawley, Wichita; Dr. George A. Westfall, Jr., Halstead; Dr. Newman C. Nash, Wichita; Dr. John F. Christianson, Kansas City, and Dr. Robert L. Obourn, Eureka.

Advertising or Charity?

The business and professional man is frequently called on the phone or receives though the mail a pitch to renew his advertisement in such-and-such a magazine or paper. The caller uses a familiar tone and mannerism. Possibly the firm may want to "go along with the boys" in putting out an issue in which they are going to fight Communism or anything else that all good citizens fight. If approached in this manner or any other type of solicitations, consider these questions:

1. Is it charity, or am I buying an ad?
2. If it is charity, should I support it?
3. How much of the donation goes to the promoter?
4. How much of the donation goes to charity?
5. Is the solicitor authorized, or will he pocket the money and skip?
6. If I am buying an advertisement, what is the circulation?
7. Is the circulation guaranteed? By whom?

—The Topekan
Topeka Chamber of Commerce
September 1958

A group of physicians, research executives, and a former director of the Budget Bureau has concluded that the nation should treble its expenditures for medical research and double its annual output of physicians, all in the next 12 years. The consultants' group to the Secretary of Health, Education, and Welfare proposes that the federal government supply about half a billion dollars by 1970, with an equal amount to come from industry and philanthropy. Head of the study group was Dr. Stanhope Bayne-Jones, former dean of the Yale medical school.

BOOK REVIEWS

Difficult Diagnosis—A Guide to the Interpretation of Obscure Illness. By H. J. Roberts, M.D. Published by W. B. Saunders Company, Philadelphia, 1958. 913 pages. Price $19.

What does this patient probably have? This question is always before practitioners, and the answer to it (with the focus on the "probably") suffices in the majority of instances. But lurking in the background is the physician's *bete noire*, the unusual diseases that the patient *may* have. Dr. Roberts has not presented us with an orthodox work on differential diagnosis, but, as indicated by its title, his book will throw light upon unusual and puzzling diagnostic problems.

Groupings of related diseases which frequently produce puzzling illness constitute Part I of the book, which includes 17 groups which cover virtually the entire scope of "medical" diseases. It would be tedious to enumerate the groups, and virtually impossible to give an indication of the scope and coverage of any single group. Suffice it to say that one will find a treasury of useful and interesting material on an amazing variety of topics. The section on cutaneous medicine includes an atlas of "systemic dermadromes" containing 100 photographs, many of which are in color. The increasingly important field of iatrogenic illnesses is covered from a refreshingly different point of view, the major emphasis being on things other than drug-induced illnesses.

Part II is a compilation and analysis of useful diagnostic procedures and makes readily available to the clinician a wealth of technical and clinical information concerning literally hundreds of diagnostic procedures—information which is, in general, available only with difficulty even to those who have a large library at their disposal.

Truly amazing reference bibliographies have been compiled. The emphasis is on articles that have appeared in standard American medical journals within the past ten years, but, when appropriate, older papers or ones appearing in foreign (usually British) journals have been cited.

Unlike most books that are valuable as reference manuals, this one makes absorbing reading, and it can confidently be predicted that its owners will enjoy reading it as an intellectually stimulating form of recreation. Every page is packed with interesting and important material. We are all familiar with variations on the theme of "the girl I would most like to be stranded on a South Sea island with," and I hereby enter my vote for Dr. Roberts' book as "the medical book I would like to be stranded in a vacation cottage with."—*J.D.R.*

Practical Leads to Puzzling Diagnoses. By Walter C. Alvarez, M.D. Published by J. B. Lippincott Company, Philadelphia. 490 pages. Price $9.00.

Despite the similarity of its title with that of the book reviewed above, Dr. Alvarez's contribution is in no way to be compared with it. In this book the author has abandoned for the moment his well-known hobby of "little strokes," and has concentrated his attention on the occurrence of psychiatric and psychosomatic illnesses in the "relatives" of the psychotic, the alcoholic, and the epileptic.

It is unpleasant and probably presumptuous to criticize an eminent elder physician, but in the interests of honesty it must be stated that the author has looked at only one side of the picture and that he has presented with tiresome repetition a theme that must be obvious to all perceptive physicians. After all, even third-year medical students are thoroughly familiar with the PPP syndrome!—*J.D.R.*

Preventive Medicine in World War II, Volume IV, Communicable Diseases. Medical Department, United States Army. Office of The Surgeon General, Department of the Army. Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C., 544 pages. Price $5.50.

This volume was prepared and published under the direction of the Surgeon General, United States Army. It deals with communicable diseases transmitted chiefly through the respiratory and alimentary tracts.

It is well known from histories of wars that the communicable diseases of men and animals have inflicted great losses upon armies and related groups essential to a military effort. They have presented large and difficult problems. Military leaders have always been aware of the handicaps imposed by diseases among troops and of the need to protect troops against disability of sickness, or possibly loss by death, resulting from infectious diseases.

During World War II, the problems of the prevention and control of communicable diseases in the Army, and in the populations with which the Army was in contact, were of unprecedented complexity and magnitude. The prevention and control of communicable diseases constituted the major segment of the general mission of the Medical Department in securing and maintaining the health of the Army.

Although military preventive medicine has greatly broadened its scope, the control of communicable diseases continues to be the central activity. This volume indicates the magnitude of the communicable disease factor in United States Army operations in World War II and defines and characterizes the problems of communicable disease in military practice as

distinct from those of civilian life. It is recommended as reading for those who are interested in such definitions and characterizations.

Each chapter in the book was written by a different author. These authors were selected because of experience and distinction in their special fields. The book is divided into three parts. Part I is an introduction and covers general considerations of modes of transmission. Part II covers diseases transmitted chiefly through the respiratory tract. Here are considered the diseases caused by viruses, by bacteria, and by fungus. In Part III, covering diseases transmitted chiefly through the alimentary tract, one chapter considers diarrhea and dysentery. This is followed by chapters on food poisoning, bacterial infections, and parasitic infections.

This book, then, is a story of the activities of the Medical Department of the Army in dealing with problems of communicable disease control, together with some account of deficiencies and successes. Here can be learned lessons from the past, which, projected into the imminent future, impart both urgency and comprehensiveness to the Medical Department's program for the prevention and control of communicable diseases.—*E.V.T.*

Public Hunger for Medical News

A monumental nationwide study, sponsored by the national Association of Science Writers and supported by a grant from the Rockefeller Foundation, strongly indicates that the American public has a big appetite for science news, especially medical.

But the surprising conclusion is that because of space limitations all "mass media are transmitting only a microscopic part of the mountainous supply of science information potentially available to them."

The study is entitled: "The Public Impact of Science in the Mass Media." It was conducted by the Survey Research Center, Institute for Social Research, University of Michigan.

The preface of the 250-page study, just released, said that "the scientific journals of the world pour forth research papers at the rate of 20,000 a week. The science writer, as the middleman in the flow of communications, must select, condense and translate from this fantastic deluge of information those items he is to transmit to the lay audiences of the mass media. In economic terms, it is not supply but demand that is the problem in the transaction."

Much of the study, which deals with nine specific objectives, was concerned with medical news and the reading public.

The study revealed, for example:

—Medical reading is more prevalent among women than men.

—Medical reading increases with age, but there is a sudden drop in the group 65 and over.

—The west leads in the percentage who read all medicine, and the south and northeast trail.

—The science consumer (the reader or TV viewer) retains a lot of what he reads and hears.

—Medical stories center around the major diseases.

—Information that can be applied in everyday life is largely of the medical type.

—Almost one third of the newspaper audience want more science news, and almost one half want more medical news.

—The science consumer prefers to receive science and general news via the written media.

—Based on newspaper readers only, 41 per cent reported that they read all medicine and health news, 35 per cent said they read some, 13 per cent said they glanced at it, and only 10 per cent said they skipped over it.

Survey of Legal Profession

A survey of attorneys on various subjects of mutual interest to physicians and lawyers will be conducted early this fall by the American Medical Association's Law Department. Approximately 10,000 lawyers will be asked to answer questions on interprofessional relations, medical professional liability, and expert medical testimony.

The need for such a study is evidenced by the fact that as high as 80 per cent of all cases tried today require medical testimony and that seven out of 10 personal injury cases are decided on medical rather than legal considerations. The medical profession should be aware of the problems of attorneys and the role of medicine in the judicial system. It is the hope of the A.M.A. that this information can be used to promote good working relations between physicians and attorneys.

CLASSIFIED ADVERTISEMENTS

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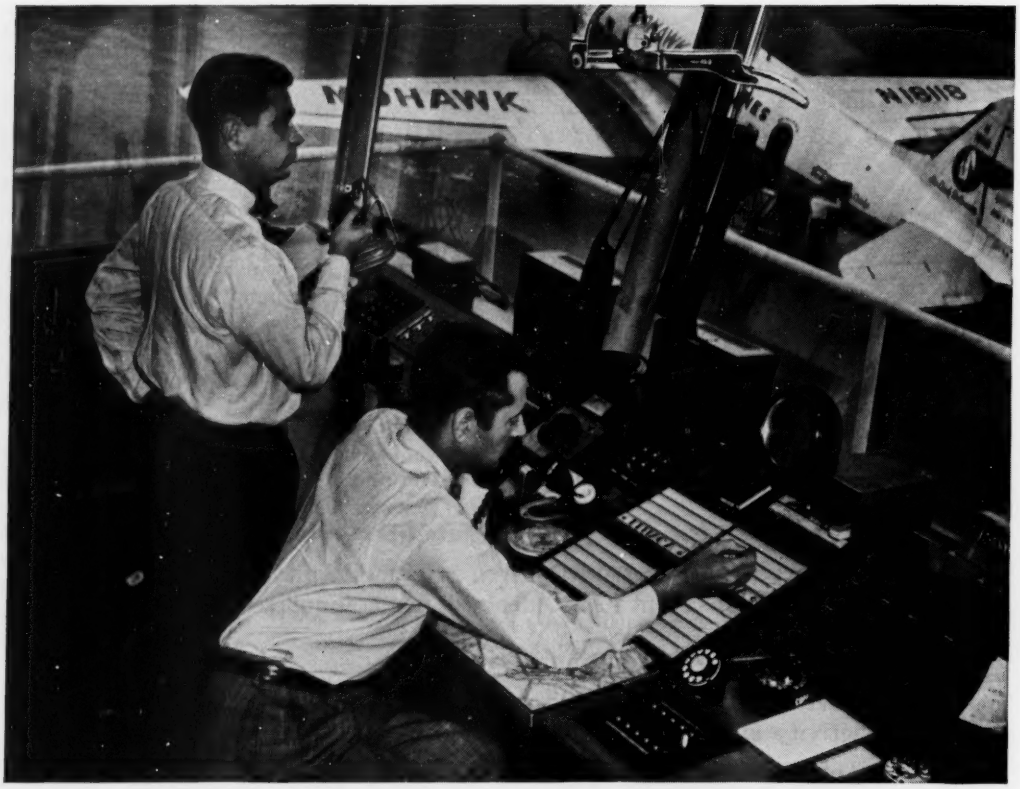
*A Symposium on the Pharmacologic Effects of Dartal on the Liver, Chicago, Searle Research Laboratories, Feb. 7, 1958.



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1. Wright, W. T., Jr.; Pokorny, C., and Foster, T. L.: Kansas M. Soc. *57*:410, 1956. 2. Gilchrist, A. R.: Brit. M. J. *2*:1011 (Nov. 3), 1956. 3. Terman, L. A.: Illinois M. J. *3*:67, 1957.

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Each teaspoonful (5 cc.) contains:

l-Lysine HCl	300 mg.
Vitamin B_{12} Crystalline	25 mcgm.
Thiamine HCl (B_1)	10 mg.
Pyridoxine HCl (B_6)	5 mg.
Ferric Pyrophosphate (Soluble)	250 mg.
Iron (as Ferric Pyrophosphate)	30 mg.
Sorbitol	3.5 Gm.

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SPONTIN IN SERIOUS

A Special Report from Abbott to the Medical Profession on a Year's Clinical Experience with SPONTIN®

(Ristocetin, Abbott)

In a Spanish province, a patient lay dying of endocarditis. A short wave radio appeal for SPONTIN was intercepted by a Baltimore physician. The antibiotic was immediately flown to this faraway land, and 10 days later—the patient had recovered.

In Chicago, a moribund patient had been administered 18 combinations of 10 different antibiotics without success. Involved was a hospital-acquired staphylococcal pneumonia—plus complications. SPONTIN was substituted and the patient lived.

A five-week-old infant was critically ill with staphylococcal enteritis. Treatment failures included erythromycin and chloramphenicol. Three days of SPONTIN saved this life. The list is long and impressive and it grows daily.

Recently, a study[1] was made of serious and resistant staphylococcal infections reported to Abbott Laboratories. Many of these cases had serious complicating diseases—many were moribund, or almost so, at the time SPONTIN was started. Yet, out of the 160 staphylococcal cases studied, 93 were reported cured and 38 improved after the administration of SPONTIN.

Out of the total of 251 patients with severe infections caused by gram-positive or mixed organisms, 149 were reported cured and 53 others improved. And the record for pediatric practice was every bit as good.

Additionally, SPONTIN continues to exhibit exceptional bactericidal activity against coccal infections[2]. And, according to another study, SPONTIN provides successful short-term therapy in endocarditis[3].

Only last October, at the Antibiotics Symposium in Washington, D. C., a panel of six leading antibiotic experts placed SPONTIN at the top of all other commercially-available antibiotics for treating serious staphylococcal infections. Also, six papers—all dealing with the effectiveness of ristocetin (SPONTIN®) in treating staphylococcal infections—were presented at the Symposium.

One of the most encouraging aspects of the year's literature on SPONTIN is the increasing testimony to its safety. As the months have passed and cases have accumulated by the hundreds, it has become apparent that careful attention to dosage recommendations has practically eliminated toxicity and side effects as serious obstacles to therapy. Also, recent improvements have been made in the manufacture of SPONTIN; the drug is now made from pure crystals.

A recent report[4] in the Journal of the American Medical Association concluded, "It is our opinion that, if proper precautions are observed, ristocetin is a [well tolerated] and potent agent to employ in the treatment of staphylococcal infections." And in another study, after successfully treating 28 patients with a variety of staphylococcal infections, the authors reported[5], "No serious complications were noted."

Few more dramatic records have been written in such a short space of time. SPONTIN has proved itself to be a good answer, perhaps the best answer at present, to the resistant staphylococcal problem – and of real value in other serious coccal infections. It may well be your answer when you're confronted with a serious infection.

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STAPHYLOCOCCAL INFECTIONS

Excerpts from Reports Read at the Antibiotics Symposium

Spontin In Treating Severe Respiratory Infections —"In 13 of 20 patients the results were excellent, with clinical response being evident within one to four days after institution of therapy. In three additional patients, there was some degree of improvement in pneumonic processes superimposed on tuberculosis in two cases and on pulmonary neoplasm in one. In all other cases, serious antecedent pathology undoubtedly influenced the negative or equivocal response to ristocetin therapy.[6]"

Spontin In Treating Staphylococcal Infections—After successfully treating 28 patients, the authors wrote, "Ristocetin or Spontin has proved to be bactericidal and bacteriostatic, particularly for the *Staphylococcus aureus,* which is often resistant to many other antibiotics.[5]"

Spontin In Treating Seven Difficult Cases – "Ristocetin has produced excellent results in eradicating, mitigating or preventing infection in seven selected difficult cases. Six of the seven cases involved *Staphylococcus aureus* which did not respond to chemotherapy with other antibiotics.[7]"

Spontin Blood Levels In Children – "Ristocetin was administered as a single intravenous injection of 12.5 milligrams per kilogram. This resulted in serum levels ranging from 1.3 to 10.6 mcg. after two hours with a gradual fall to a level of 0.7 mcg. per cubic centimeter or less after 12 hours.[8]"

Spontin In Treating Staphylococcal Pneumonia —"Ristocetin was used in the treatment of 24 patients with staphylococcal pneumonia, 17 of whom had failed to respond to previously administered antibiotics. Complete clearing of pneumonitis was obtained in 16 patients and significant improvement occurred in two others. Two patients died of pneumonia; four others succumbed to other lethal diseases.[9]"

Spontin In Treating Children and Adults – "Ristocetin completely controlled severe staphylococcal infections in 11 adults and six children who received adequate therapy.[10]"

1. Totals represent published reports and personal communications to Abbott Laboratories.
2. Sixth Annual Symposium on Antibiotics, Washington, D. C., Oct. 15, 16, 17, 1958.
3. Romansky, M. J., and Holmes, R., Successful Short-Term Therapy of Enterococcal and Staphylococcal Endocarditis with Ristocetin–Seven Patients. Preliminary Report, Antibiotics Annual, 1957-58, p. 187.
4. J. A. M. A., 167:1584, July 26, 1958.
5. Bush, L. F., et al., The Use of Ristocetin (Spontin) in Staphylococcal Infections, In Press, Antibiotics Annual, 1958-59.
6. Billow, F. J., et al., Clinical Observations on Ristocetin–A Preliminary Report on its Efficacy and Toxicity in 20 Unselected Severe Respiratory Infections, In Press, Antibiotics Annual, 1958-59.
7. Miller, J. M., et al., Ristocetin in the Treatment of Seven Selected Difficult Cases, In Press, Antibiotics Annual, 1958-59.
8. Asay, L. D., et al., Ristocetin Serum Levels in Children, In Press, Antibiotics Annual, 1958-59.
9. Schumacher, L. R., et al., Experiences with Ristocetin in Staphylococcal Pneumonia: Observations in 23 Cases, In Press, Antibiotics Annual, 1958-59.
10. Terry, R. B., Ristocetin in Children and Adults, In Press, Antibiotics Annual, 1958-59.

IN ALCOHOLISM

A "SECOND BEST" ARMY FAILS TOTALLY

And against the main army of alcoholics—those whose drinking is a symptom of underlying pathology—less than a complete campaign is futile.

To shorten time, frustration and expense (simple efficient management) requires initial institutional care of these individuals:

1. To stop their ingestion of alcohol;
2. To detoxify the system;
3. To restore the fluid electrolyte balance;
4. To detect and correct nutritional anomalies peculiar to the individual alcoholic;
5. To overcome or reduce bodily ailments that contribute to the abnormal state and, finally
6. **To develop a program that will aid the particular individual in abstaining from all alcoholic beverages until death.**

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The Ralph Clinic (in its 61st year) is in the advance of every phase of the treatment of alcoholism. It invites consultation with you concerning your patients with problems of excessive drinking.

(A portfolio about the Problem of Alcoholism is available upon request).

1 Ladeez and gentlemen: learn all about new VITERRA PEDIATRIC, a good supplement in a great new package.
2 First, see what happens when you push the metered plunger.
3 Aha! An exact 0.6 cc. comes out this spout. Never more, never less.
4 And notice — no drip, no waste, no sticky bottle.
5 On your right, see the Metered-Flow bottle's tight seal. No risk of contamination.
6 Let's take a minute to admire the formula.
7 That means no hot-weather loss of potency.
8 Now for a farewell treat, a taste of delicious, orange-y VITERRA PEDIATRIC. How will you have it — in fruit juice? On cereal? Straight from the spoon?
VITERRA® PEDIATRIC
each 0.6 cc. contains:
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Infants Children
A (synthetic) 5000 U.S.P. Units 333% 167%
D (Calciferol) 1000 U.S.P. Units 250% 250%
B1 (Thiamine) 1 mg. 400% 133%
B2 (Riboflavin) 1 mg. 167% 110%
B6 (Pyridoxine) 1 mg. †† ††
B12 (Cyanocobalamin) 1 mcg. †† ††
C (Ascorbic Acid) 50 mg. 500% 250%
Niacinamide 10 mg. 200% 133%
Panthenol 2 mg.
in a d-sorbitol base for better vitamin B12 absorption
††Minimum daily requirement has not been established.
DOSAGE: 0.6 cc. or as directed by physician.
In 50 cc. bottles
no refrigeration needed

VITERRA® PEDIATRIC

METERED-FLOW BOTTLE

ALLOW 30 SECONDS BETWEEN DISPENSINGS

Special note to doctors who took this tour:

Problems of over- and under-dosage, spillage, spoilage or leakage disappear with VITERRA PEDIATRIC'S new Metered-Flow bottle. Why not consider these advantages when you recommend a vitamin supplement?

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How can the problem of "postcholecystectomy syndrome" be reduced?

A "routine" operative cholangiogram is now recommended in addition to thorough surgical exploration, reducing the number of cholecystectomized patients later presenting the same symptoms as before the operation.

Source: Vazquez, S. G.: J. Internat. Coll. Surgeons *28*:394, 1957.

for pre- and postoperative management of biliary tract disorders... **DECHOLIN®** *"therapeutic bile"*

*Hydro*choleresis with DECHOLIN combats bile stasis by flushing the biliary tract with dilute, natural bile...

- corrects excessive bile concentration
- helps to thin gallbladder contents
- benefits patients with chronic cholecystitis, noncalculous cholangitis, and biliary dyskinesia

in functional G.I. distress... **DECHOLIN®** with **BELLADONNA**

- reliable spasmolysis
- improved liver function

available: DECHOLIN Tablets: (dehydrocholic acid, AMES) 3¾ gr. (250 mg.). Bottles of 100, 500 and 1,000; drums of 5,000.

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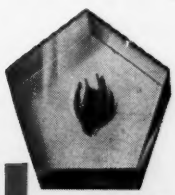
Until the discovery of DECADRON* by MERCK SHARP & DOHME, when your diabetic patients were also in need of corticosteroid treatment, you were often faced with a difficult therapeutic dilemma. Diabetes mellitus was a recognized contraindication to the use of corticosteroids, since they not only aggravated the existing diabetic symptoms, but often precipitated latent diabetes.

NOW EVEN many diabetic patients may have THE FULL BENEFITS OF CORTICOSTEROID THERAPY

DECADRON—the new and most potent of all anti-inflammatory corticosteroids—is remarkable for its **virtual absence of diabetogenic effect** in therapeutic doses.



Decadron*

DEXAMETHASONE

to treat more patients more effectively

In clinical trials with some 1,500 patients glycosuria was noted in only two, transitory glycosuria in another two, and flattening of the glucose tolerance curve in one. There were no instances of aggravation of existing diabetes, no increase in insulin requirements. Patients whose diabetes was severely aggravated on prednisolone showed good tolerance when transferred to DECADRON.

MORE patients can be treated with DECADRON than with other corticosteroids, because in addition to being practically free of diabetogenic activity, therapy with DECADRON is also practically free of sodium retention, potassium depletion, hypertension, edema and psychic disturbances. Cushingoid effects are fewer and milder. DECADRON has not caused any new or "peculiar" reactions, and has produced neither euphoria nor depression, but helps restore a "natural" sense of well-being.

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A workhorse "mycin" for common infections

respiratory infections

prompt, high blood levels

consistently reliable and reproducible blood levels

minimal adverse reactions

With well-tolerated CYCLAMYCIN, you will find it possible to control many common infections rapidly and to do so with remarkable freedom from untoward reactions. CYCLAMYCIN is indicated in numerous bacterial invasions of the respiratory system—lobar pneumonia, bronchopneumonia, tracheitis, bronchitis, and other acute infections. It has been proved effective against a wide range of organisms, such as pneumococci, H. influenzae, streptococci, and many strains of staphylococci, including some resistant to other "mycins." Supplied as Capsules, 125 and 250 mg., vials of 36; Oral Suspension, 125 mg. per 5-cc. teaspoonful, bottles of 2 fl. oz.

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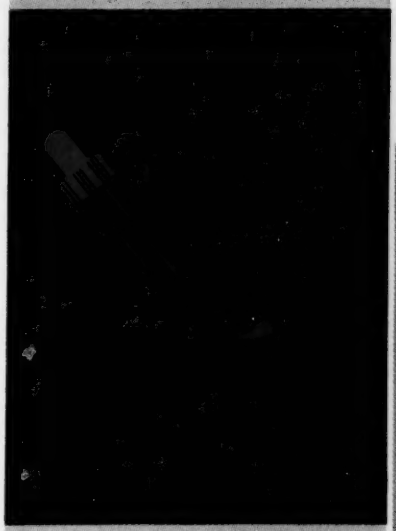
For easy, safe, painless removal of ear wax— without instrumentation



Proved clinically effective in 4,464 (95.0 per cent) of 4,695 patients (ages 3 months to 83 years) with excess or impacted cerumen†

For patient convenience and economy, prescribe 'Cerumenex' Drops in the regular 15 cc. bottle, packaged with cellophane wrapped blunt-end dropper.

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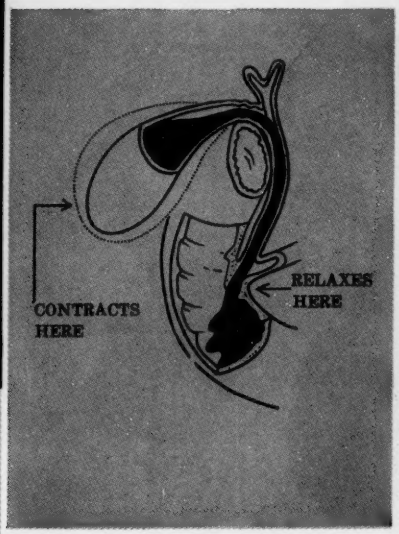
T.M. CERUMENEX, CONTAINS CERAPON® 10.0% IN PROPYLENE GLYCOL WITH CHLOROBUTANOL 0.5% ®BRAND OF TRIETHANOLAMINE POLYPEPTIDE OLEATE-CONDENSATE U.S. AND FOREIGN PATENTS PENDING

PROBILAGOL™ LIQUID

cholecystokinetic-cholagogue action

Specifically designed for therapeutic and prophylactic management of dyspepsia and food intolerance



A unique cholecystokinetic-cholagogue, 'ProBilagol' provides prompt gallbladder evacuation, prolonged relief, safety, extreme palatability

Supply: Bottles of 12 and 6 fluid ounces.

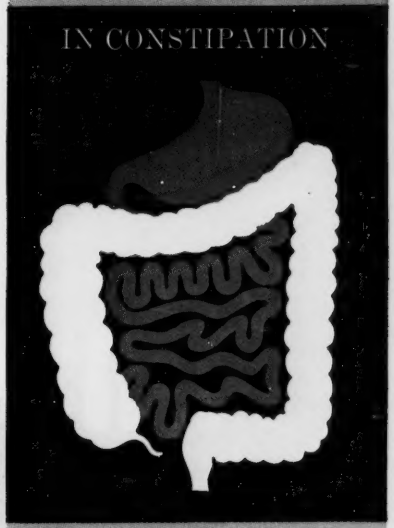
T.M. PROBILAGOL D-GLUCITOL WITH HOMATROPINE METHYLBROMIDE, PURDUE FREDERICK

Senokot®

natural bowel corrective

TABLETS / GRANULES

IN CONSTIPATION



Assures bowel correction and rehabilitation because it "...acts in a way almost indistinguishable from the normal physiologic mechanism..."[1]

without mucosal irritation due to chemical contact

without incompatibilities to antacids and other medications

Supply: Tablets, small and easy to swallow, in bottles of 100. Granules, cocoa-flavored, in 8 and 4 ounce canisters.

1. Herland, A. L., Lowenstein, A.: Quart. Rev. Surg. Obst. & Gynec. 14:196 (Dec.) 1957

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there's pain and inflammation here... it could be mild or severe, acute or chronic, primary or secondary fibrositis—or even early rheumatoid arthritis

more potent and comprehensive treatment than salicylate alone

. . . assured anti-inflammatory effect of low-dosage corticosteroid[1]

. . . additive antirheumatic action of corticosteroid plus salicylate[2-5] brings rapid pain relief; aids restoration of function.

. . . wide range of application including the entire fibrositis syndrome as well as early or mild rheumatoid arthritis

more manageable corticosteroid dosage

. . . much less likelihood of treatment-interrupting side effects[1-6]

. . . simple, flexible dosage schedule

in any case
it calls for

Sigmagen®

corticoid-salicylate compound

tablets

Composition

METICORTEN® (prednisone)	0.75 mg.
Acetylsalicylic acid	325 mg.
Aluminum hydroxide	75 mg.
Ascorbic acid	20 mg.

Packaging: SIGMAGEN Tablets, bottles of 100 and 1000.

References: 1. Spies, T. D., et al.: J.A.M.A. 159:645, 1955. 2. Spies, T. D., et al.: Postgrad. Med. 17:1, 1955. 3. Gelli, G., and Della Santa, L.: Minerva Pediat. 7:1456, 1955. 4. Guerra, F.: Fed. Proc. 12:326, 1953. 5. Busse, E. A.: Clin. Med. 2:1105, 1955. 6. Sticker, R. B.: Panel Discussion, Ohio State M. J. 52:1037, 1956.

Acute conditions: Two or three tablets four times daily. After desired response is obtained, gradually reduce daily dosage and then discontinue.

Subacute or chronic conditions: Initially as above. When satisfactory control is obtained, gradually reduce the daily dosage to minimum effective maintenance level. For best results administer after meals and at bedtime.

Precautions: Because SIGMAGEN contains prednisone, the same precautions and contraindications observed with this steroid apply also to the use of SIGMAGEN.

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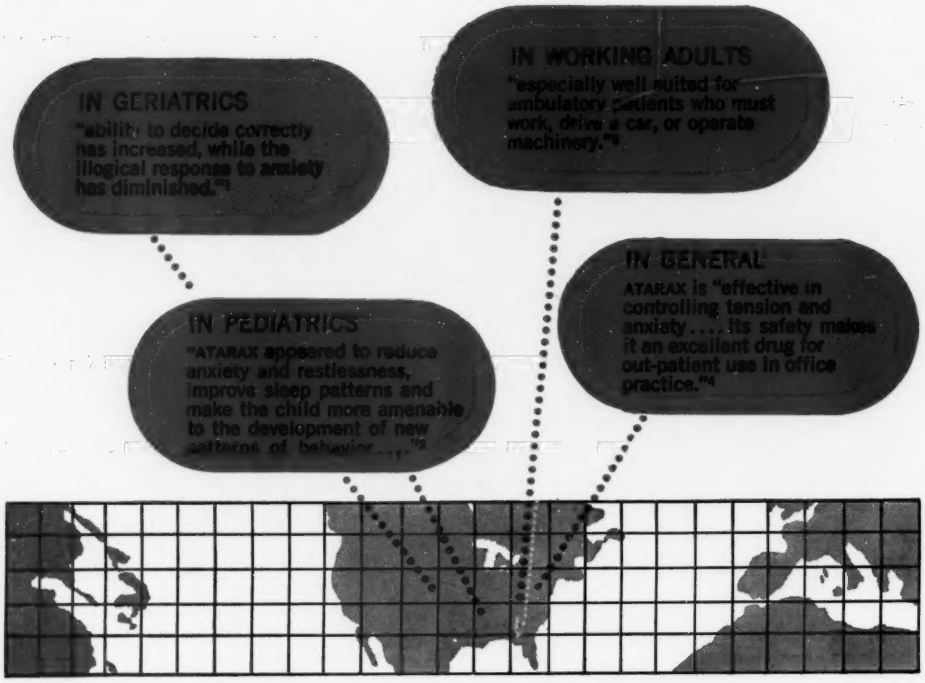
(brand of hydroxyzine)


IN GERIATRICS
"ability to decide correctly has increased, while the illogical response to anxiety has diminished."[1]
IN WORKING ADULTS
"especially well suited for ambulatory patients who must work, drive a car, or operate machinery."[3]
IN PEDIATRICS
"ATARAX appeared to reduce anxiety and restlessness, improve sleep patterns and make the child more amenable to the development of new
IN GENERAL
ATARAX is "effective in controlling tension and anxiety.... its safety makes it an excellent drug for out-patient use in office practice."[4]

INVESTIGATORS AGREE ON OPTIMAL ATARAX DOSAGES

For childhood behavior disorders	10 mg. tablets Syrup	3-6 years, one tablet t.i.d. over 6 years, two tablets t.i.d. 3-6 years, one tsp. t.i.d. over 6 years, two tsp. t.i.d.
For adult tension and anxiety	25 mg. tablets Syrup	one tablet q.i.d. one tbsp. q.i.d.
For severe emotional disturbances	100 mg. tablets	one tablet t.i.d.
For adult psychiatric and emotional emergencies	Parenteral Solution	25-50 mg. (1-2 cc.) intramuscularly, 3-4 times daily, at 4-hour intervals. Dosage for children under 12 not established.

Supplied: Tablets, bottles of 100. Syrup, pint bottles. Parenteral Solution, 10 cc. multiple-dose vials.

References: 1. Smigel, J. O., et al.: J. Am. Ger. Soc., in press. 2. Freedman, A. M.: Pediat. Clin. North America 5:573 (Aug.) 1958. 3. Ayd, F. J., Jr.: New York J. Med. 57:1742 (May 15) 1957. 4. Menger, H. C.: New York J. Med. 58:1684 (May 15) 1958. 5. Coirault, M., et al.: Presse méd. 64:2239 (Dec. 26) 1956. 6. Bayart, J.: Presented at the International Congress of Pediatrics, Copenhagen, Denmark, July 22-27, 1956.

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Science for the World's Well-Being

All this for one monthly fee

- ✓ Enjoy the most modern x-ray facilities . . . avoid obsolescence losses
- ✓ No surprise "extras" — covers periodic inspection, maintenance, replacement tubes, parts
- ✓ Freedom to add or replace equipment as improvements appear
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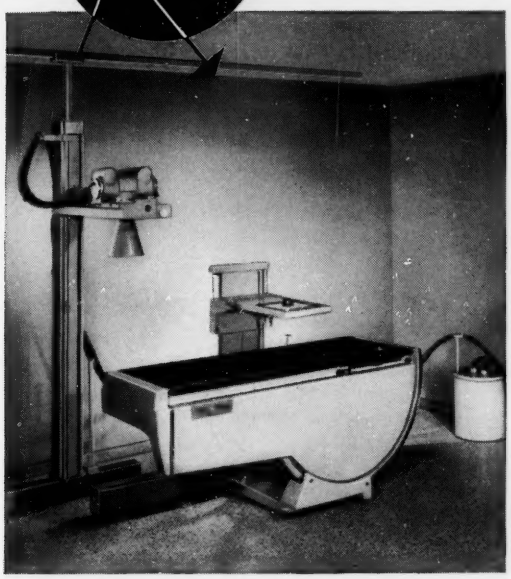
without capital outlay



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Now—All cold symptoms can be controlled

Provides Triaminic for more complete and more effective relief from nasal and paranasal congestion because of systemic transport to *all* respiratory membranes—without drawbacks of topical therapy.†

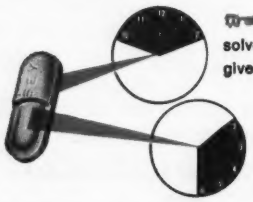
Provides well-tolerated APAP (N-acetyl-p-aminophenol) for prompt and effective analgesic and antipyretic action to make the patient more comfortable.

Provides Dormethan (brand of dextromethorphan HBr) for non-narcotic antitussive action on the cough reflex center in the medulla—as effective as codeine but without codeine's drawbacks.

Provides terpin hydrate, classic expectorant to thin inspissated mucus and help the patient clear the respiratory passages.

†Lhotka, F. M.: Illinois M. J. 112:259 (Dec.) 1957. Fabricant, N. D.: E. E. N. T. Monthly 37:460 (July) 1958. Farmer, D. F.: Clin. Med. 5:1183 (Sept.) 1958.

Special "timed release" design



First—the outer layer dissolves within minutes to give 3 to 4 hours of relief

Then—the inner core releases its ingredients to sustain relief for 3 to 4 more hours

also available for those patients who prefer liquid medication: Tussagesic suspension

Each TUSSAGESIC tablet provides:

TRIAMINIC®	50 mg.
(phenylpropanolamine HCl	25 mg.
pheniramine maleate	12.5 mg.
pyrilamine maleate	12.5 mg.)
Dormethan (brand of dextromethorphan HBr)	30 mg.
Terpin hydrate	180 mg.
APAP (N-acetyl-p-aminophenol)	325 mg.

Dosage: One tablet in the morning, midafternoon and in the evening, if needed.

Tussagesic® *timed-release tablets*

*Contains TRIAMINIC to STOP running noses and open stuffed noses orally

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DIURIL® WITH RESERPINE

more hypertensives can be better controlled
with **DIUPRES** than with any other agent
... with greater simplicity and convenience

a logical alliance of two antihypertensives
you know and trust provides

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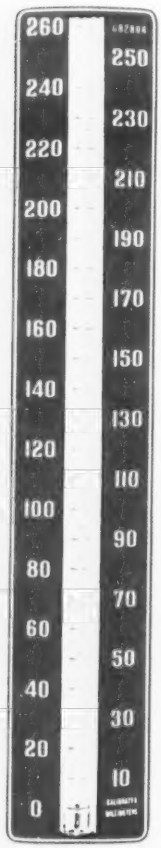
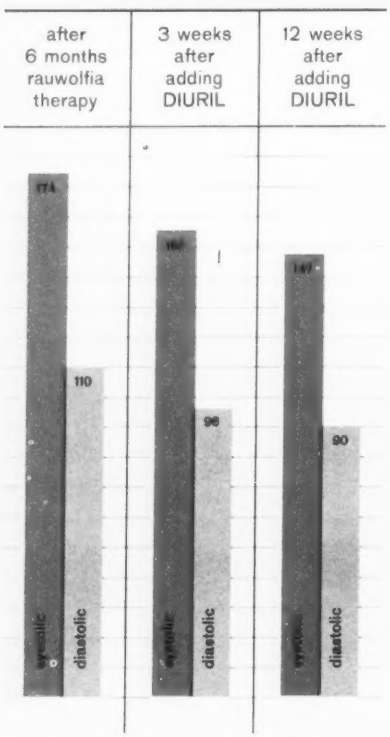
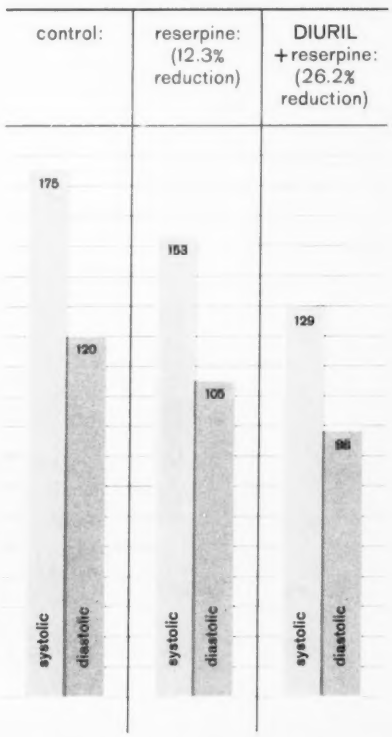
DIUPRES produces an effect greater than either DIURIL or reserpine alone. It is effective in many patients who respond inadequately or not at all to either DIURIL or reserpine.



Average antihypertensive effect of rauwolfia and rauwolfia+DIURIL in 25 patients[1]



Average antihypertensive effect of reserpine and DIURIL+reserpine in 7 patients[2]



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effective therapy for most patients

DIUPRES by itself usually provides effective therapy for a majority of patients with mild or moderate hypertension, and even for many patients with severe hypertension. Many patients now treated with other agents which frequently cause distressing side effects can be adequately managed with well tolerated DIUPRES.

provides basic therapy

Should other drugs need to be added to DIUPRES, they can be given in much lower than usual dosage so that their side effects are often strikingly reduced.

rapid onset of effect

The antihypertensive action of DIUPRES is rapidly evident. (Considerable time may elapse before the antihypertensive effect of reserpine alone is observed.)

fewer and less severe side effects

DIUPRES may be expected to cause fewer and less severe side effects than are encountered with other antihypertensive therapy. (Since DIURIL and reserpine potentiate each other, the required dosage of each is usually less when given together as DIUPRES than when given alone. Such reduction in dosage makes side effects less likely to occur.)

often obviates weight gain

DIUPRES minimizes the problem of weight gain seen with reserpine (reserpine alone has been reported to produce weight gain in 50 per cent of patients).[1,4]

virtually eliminates fluid retention

DIUPRES is not likely to cause either clinical or subclinical retention of sodium and water. (Hypotensive drugs, particularly rauwolfia[5] and hydralazine,[6] may cause fluid retention. Even when such retention is subclinical, their antihypertensive effectiveness is diminished.[6])

diet more palatable

With DIUPRES, there is less need for rigid restriction of dietary salt, which patients find so burdensome.

> *"It may well be that the drug* [DIURIL] *produces the benefits of a markedly restricted low sodium diet but without its hardships."*[3]

subjective and objective improvement

DIUPRES allays anxiety and tension, thus reducing the emotional component of hypertension. Organic changes of hypertension may be arrested and reversed. Headache, dizziness, palpitations and tachycardia are usually promptly relieved by DIUPRES. When the *anginal syndrome* accompanies hypertension, the administration of DIUPRES may also cause diminution or even disappearance of this syndrome concurrent with control of the hypertension.

convenient, controlled dosage

Instead of two separate prescriptions, you write one prescription . . . the patient takes one tablet, rather than two different tablets . . . and the dosage schedule is easier for the patient to remember and follow.

> *"patients have fewer lapses and make fewer mistakes in dosage, the simpler the regimen can be made. Therefore I do not hesitate to use more than one medicament combined in one tablet, provided this gives approximately the correct dosage of each."*[6]

economical

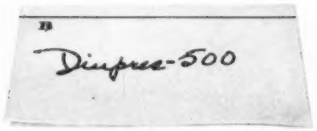
DIUPRES will cost the patient less than if he were given two separate prescriptions for its components.

Indications:
DIUPRES is indicated in hypertension of all degrees of severity. It can be used in the following ways:

- as total therapy
- as primary therapy, adding other drugs if necessary
- as replacement or adjunctive therapy in patients now treated with other agents

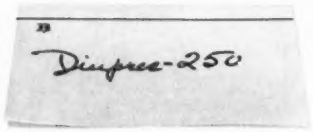
Precautions:
The precautions normally observed with DIURIL or reserpine apply to DIUPRES. Additional information on DIUPRES is available to physicians on request.

Recommended dosage range:
DIUPRES-500—one tablet one to three times a day.
DIUPRES-250—one tablet one to four times a day.
If necessary, other agents may be added.
If the patient is receiving ganglion blocking agents or hydralazine, their dosage should be cut by 50 per cent when DIUPRES is added.



DIUPRES-500

500 mg. DIURIL (chlorothiazide), 0.125 mg. reserpine.
Bottles of 100, 1000.



DIUPRES-250

250 mg. DIURIL (chlorothiazide), 0.125 mg. reserpine.
Bottles of 100, 1000.

the first "wide range" antihypertensive

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DIURIL® WITH RESERPINE

1. Rochelle, J. B., III, Bullock, A. C., and Ford, R. V.: Potentiation of antihypertensive therapy by use of chlorothiazide, *J.A.M.A.* 168:410, Sept. 27, 1958. 2. Freis, E. D., Wanko, A., Wilson, I. M., and Parrish, A. E.: Treatment of essential hypertension with chlorothiazide (Diuril), *J.A.M.A.* 166:137, Jan. 11, 1958. 3. Freis, E. D.: Treatment of hypertension. (Presented at the Annual Meeting of Southern Medical Association, Nov. 13, 1957.) 4. Moyer, J. H., Dennis, E., and Ford, R.: Drug therapy (Rauwolfia) of hypertension, *A.M.A. Arch. Int. Med.* 96:530, Oct. 1955. 5. Perera, G. A.: Edema and congestive failure related to administration of rauwolfia serpentina, *J.A.M.A.* 159:439, Oct. 1, 1955. 6. Wilkins, R. W.: Precautions in use of antihypertensive drugs, including chlorothiazide, *J.A.M.A.* 167:801, June 14, 1958.

MSD MERCK SHARP & DOHME, DIVISION OF MERCK & CO., INC., PHILADELPHIA 1, PA.

*DIUPRES and DIURIL (chlorothiazide) are trademarks of Merck & Co., Inc.

In the Treatment of Rheumatic Disorders Greater stability of maintenance dosage minimizes risks of hormonal imbalance

In Sterazolidin, the anti-inflammatory actions of prednisone and Butazolidin* are combined to permit lower effective dosage of each. Clinical experience has indicated that patients can be well maintained on this combination over prolonged periods with relatively low, stable dosage levels of each component, thus minimizing the problems arising from excessively high doses of corticosteroids. Other side effects have also been gratifyingly few. Antacid and spasmolytic components are contained in Sterazolidin capsules for the benefit of patients with gastric sensitivity.

Sterazolidin®: Each capsule contains prednisone 1.25 mg.; phenylbutazone 50 mg.; dried aluminum hydroxide gel 100 mg.; magnesium trisilicate 150 mg.; homatropine methylbromide 1.25 mg.

Detailed information available on request.

*Geigy's trademark for phenylbutazone—Reg. U. S. Pat. Off.

new **Sterazolidin®** Capsules

prednisone-phenylbutazone, Geigy

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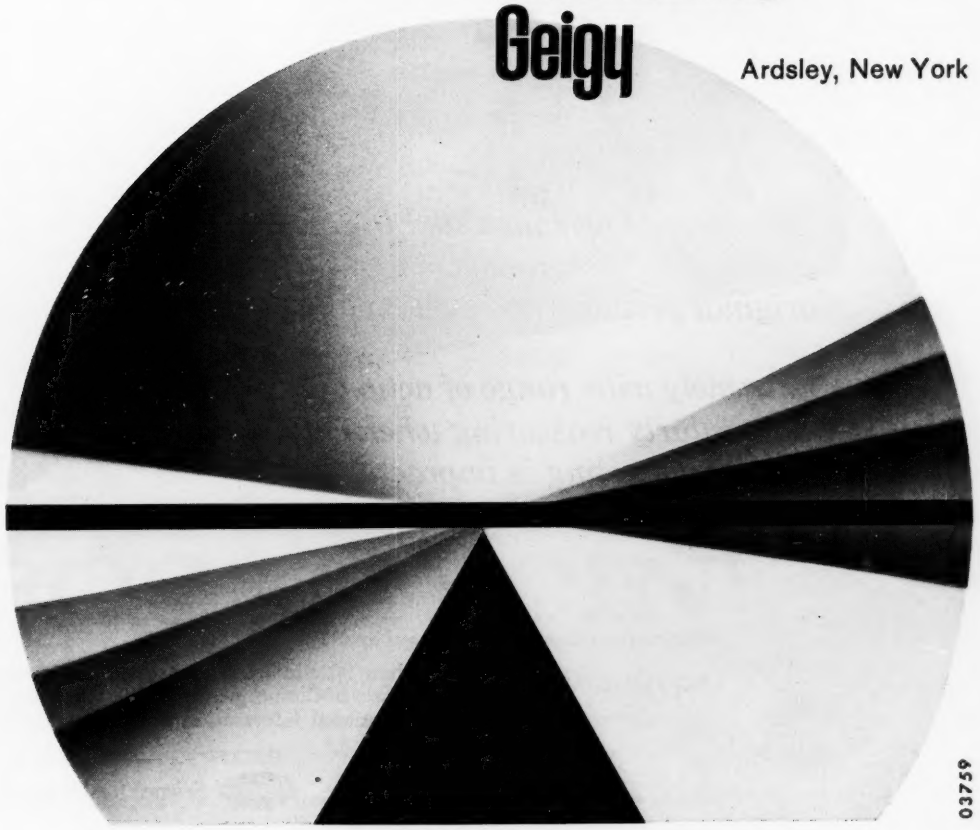

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fruit-punch flavored tablets that will actually "melt in the mouth"

can be chewed like candy

can be crushed and sprinkled on cereal or other food

can be dissolved in water, juice or milk

can be sucked and will dissolve like a lozenge

can be easily swallowed (small tablet size)

VIGRAN CHEWABLES *taste like candy*, but contain *no ingredients harmful to teeth.* Important, too, is that VIGRAN CHEWABLES *dissolve easily* in the mouth and *smell good.* These advantages will also appeal to your elderly patients. And VIGRAN CHEWABLES provide at least 125% of the minimum daily requirements for vitamins A, D, B_1, B_2, niacinamide and C, and significant amounts of other essential vitamins.

Each VIGRAN CHEWABLE tablet contains:

Vitamin A	5,000 U.S.P. units
Vitamin D	1,000 U.S.P. units
Vitamin C	75 mg.
Vitamin B_1	3 mg.
Vitamin B_2	3 mg.
Vitamin B_6	2 mg.
Niacinamide	25 mg.
Calcium Pantothenate	3 mg.
Vitamin B_{12}	5 mcg.

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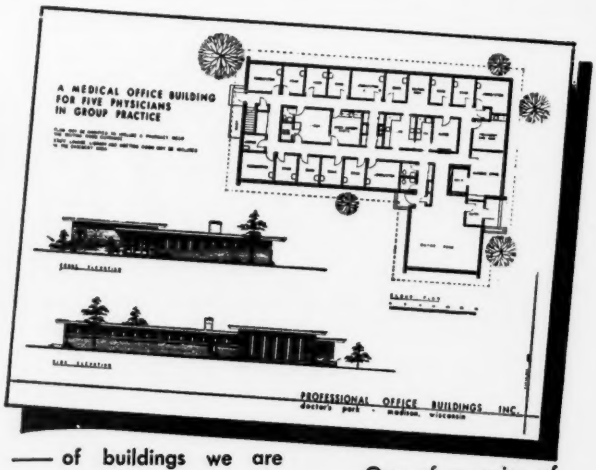

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1. Editorial: New England J. Med. 258:48, 1958.
2. Vinnicombe, J.: Antibiotic Med. & Clin. Ther. 5:474, 1958.
3. Sheth, U. K., et al.: Ibid., p. 604, 1958.

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*Chappel, C.C., J.A.M.A., 162: 1414, (Dec. 8) 1956

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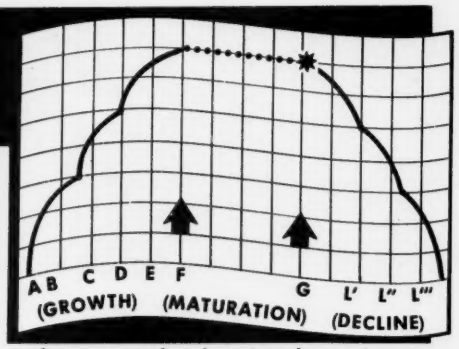

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Molybdenum	0.5 mg.	Iodine	0.15 mg.
Cobalt	0.1 mg.	Potassium	2 mg.
Copper	0.2 mg.	Zinc	1 mg.
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Vitamin D	400 I.U.	Methionine	20 mg.
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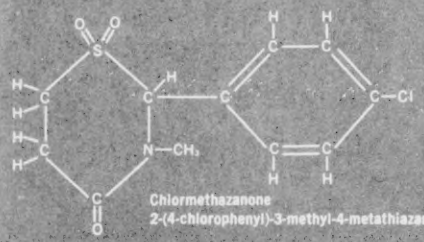

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2-(4-chlorophenyl)-3-methyl-4-metathiazanone-1-dioxide

Unrelated chemically to any other therapeutic agent in current use. Better tolerated and safer than older drugs.

for clinical results in 4092 patients *see inside*

Trancopal

the first true
*TRANQUILAXANT**

MUSCLE RELAXANT
and TRANQUILIZER

clinical results in 4092 patients[5]

*tran-qui-lax-ant

Clinical Comments

"We have just started using it [Trancopal] for relaxing spastic musculature and are *very much encouraged.*"[1]

Baker, University of Minnesota Medical School

"Chlormethazanone [Trancopal] not only relieved *painful muscle spasm,* but allowed the patients to resume their normal activities with no interference in performance of either manual or intellectual tasks."[2]

Lichtman, New York Polyclinic Medical School and Hospital

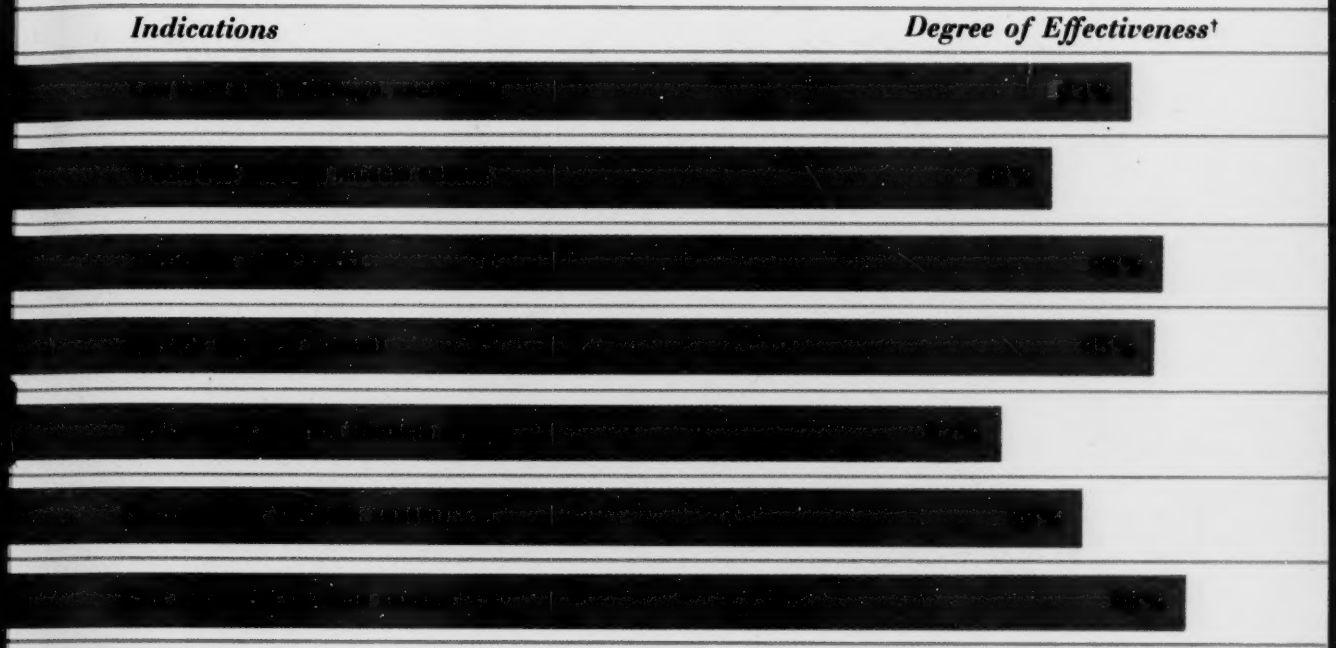
"The effect of this preparation in these cases [skeletal muscle spasm] was *excellent and prompt . . .*"[3]

Mullin and Epifano, Long Island College Hospital

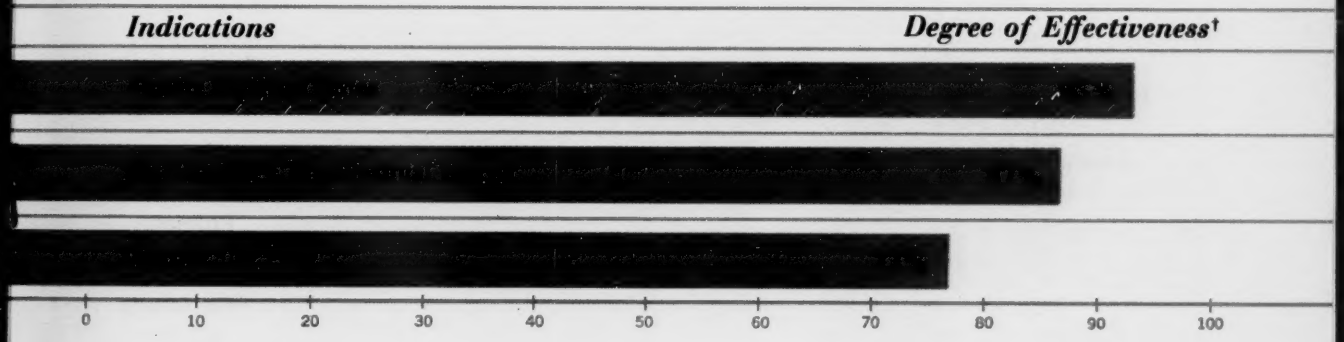
"In 120 patients with *anxiety or tension states,* 114 received satisfactory control of their condition. *Severe dysmenorrhea* and *premenstrual tension* in 65 patients refractory to the usual medications were relieved satisfactorily in 56."[4]

Lichtman

91% Effective in Musculoskeletal Disorders



89% Effective in Psychogenic Disorders



†*Excellent, good and fair*

The results of clinical studies of over 4092 patients by 105 physicians demonstrate that Trancopal often is effective when other drugs have failed. From these studies it is clear that Trancopal probably can provide more help for a greater number of tense, spastic, and/or emotionally upset patients than any other pharmaceutical agent in current use.

Winthrop

Dosage:
Usual adult dose, 1 Caplet (100 mg.) three or four times daily. Children (from 5 to 12 years), ½ Caplet (50 mg.) three or four times daily.

Supplied:
Trancopal Caplets® (peach colored, scored) 100 mg., bottles of 100 and 1000.

Trancopal

the first true tranquilaxant

MUSCLE RELAXANT and TRANQUILIZER

ADVANTAGES OF TRANCOPAL

- Lower incidence of side effects than with zoxazolamine, methocarbamol or meprobamate.
- No known contraindications. Blood pressure, pulse rate, respiration and digestive processes unaffected by therapeutic dosage. No effects on hematopoietic system or liver and kidney function.
- Low toxicity. "As safe as aspirin."
- No gastric irritation. Can be taken before meals.
- No clouding of consciousness, no euphoria or depression.
- No perceptible soporific effect, even in high dosage.

INDICATIONS

Musculoskeletal

Low back pain (lumbago)
Neck pain (torticollis, etc.)
Bursitis
Rheumatoid arthritis
Osteoarthritis
Disk syndrome
Fibrositis
Joint disorders (ankle sprain, tennis elbow, etc.)
Myositis
Postoperative myalgias

Psychogenic

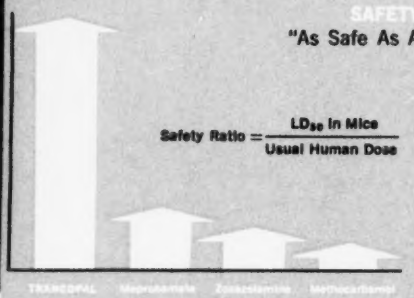
Anxiety and tension states
Dysmenorrhea
Premenstrual tension
Asthma
Angina pectoris

Neurologic

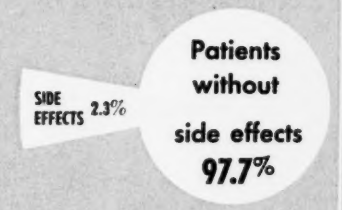
Muscle spasm (in paralysis agitans, multiple sclerosis, hemiplegia, cerebral palsy)

SAFETY

"As Safe As Aspirin"



Comparative pharmacologic tests showed that Trancopal is up to thirteen times as safe, or up to thirteen times less toxic. The measure of safety was the LD_{50} in mice/usual human dose.



INCIDENCE OF SIDE EFFECTS WITH TRANCOPAL IN 4262 PATIENTS.

SUPPLIED

Trancopal Caplets (peach colored, scored) 100 mg., bottles of 100 and 1000.

REFERENCES

1. Baker, A. B.: Drugs to relieve increased tonus, spasticity, and rigidity of muscles, Modern Med. 26:140, April 15, 1958 • 2. Lichtman, A. L.: New developments in muscle relaxant therapy, Kentucky Acad. Gen. Pract. J. 4:28, Oct., 1958. • 3. Mullin, W. G., and Epifano, Leonard: To be published. • 4. Lichtman, A. L.: To be published. • 5. Cooperative Study, Department of Medical Research, Winthrop Laboratories.

Winthrop Laboratories • New York 18, N. Y.

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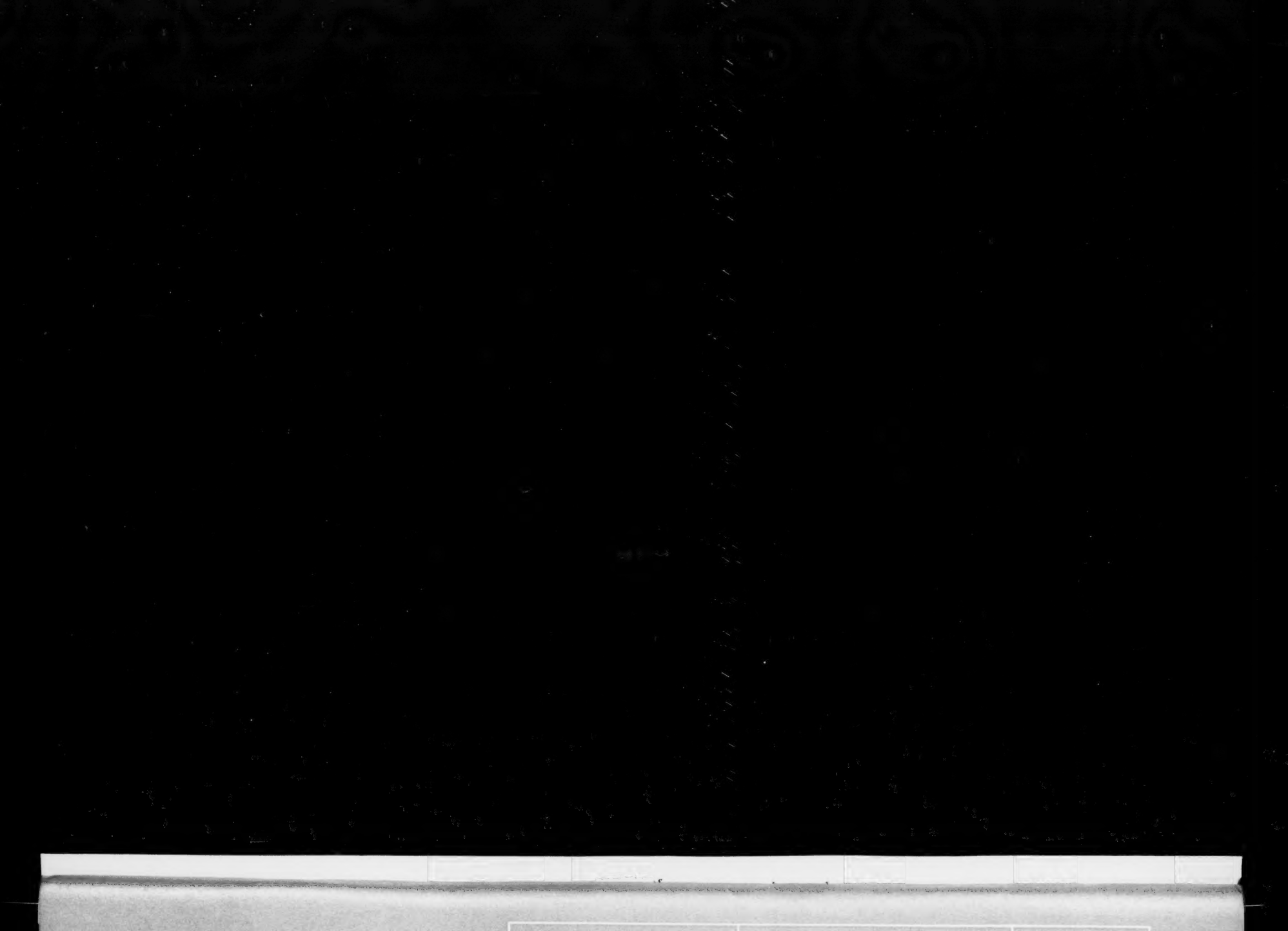

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Typically, the allergic patient can enjoy a whole day's freedom from symptoms with just one Pyribenzamine Lontab in the morning—a whole night of restful sleep with just one Lontab in the evening.

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For patients who need only periodic medication, regular Pyribenzamine tablets provide fast, dependable action, with a minimum of undesirable side effects.

SUPPLIED: Pyribenzamine Lontabs—full-strength—100 mg. (light blue). **Pyribenzamine Lontabs**—half-strength—50 mg. (light green); for children over 5 and adults who require less antiallergic medication. **Pyribenzamine** Regular Tablets, 50 mg. (green, scored) and 25 mg. (green, sugar-coated).

Pyribenzamine® hydrochloride *(tripelennamine hydrochloride* CIBA) **Lontabs®** *(long-acting tablets* CIBA)

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TO THE MEDICAL DIRECTOR

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All patients have shown a consistent response to the drug and the continuation therapy has effected a good control so far . . . approximately two to three months. In four patients systolic blood pressure was reduced from 20 to 50 mm. Hg and the diastolic from 10 to 15 mm. One patient, who had a pressure of 220/130 has had a phenomenal response, and I brought the systolic down to 165 and the diastolic to 95.

M. D., Wisconsin

Dear Doctor:

Rauvera has produced satisfactory reductions of blood pressure in every hypertensive case in which I have used it.

M. D., Colorado

Dear Doctor:

Rauvera tabs are my choice for hypertension over 170 . . . they give me the best results.

M. D., Texas

Comment: *It is interesting to note that no adverse side effects were reported in connection with Rauvera's effective antihypertensive action.*

*Rauvera contains 1 mg. alseroxylon (purified Rauwolfia serpentina alkaloid), 3 mg. alkavervir (Veratrum viride fraction) in each scored tablet.

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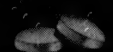

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After full effect one tablet suffices

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Rauwiloid provides effective Rauwolfia action virtually free from side effects... the smooth therapeutic efficacy of Rauwiloid is associated with significantly less toxicity than reserpine... and with a lower incidence of depression. Tolerance does not develop.

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or

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